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For complete details see Employment News dated 23rd May, 1998.

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Editor :
SUTINDER SINGH

Institution Building and Values

An Analogy

P. Selvaraj*

An Institution

It is an elementary fact that societies by their very nature present organised groupings of people whose activities are institutionally channelled. An organisation is a system in the society which is meant for delivering predetermined benefits to the society through efficient means of producing and supplying benefits

An organisation is a system of consciously co-ordinated activities and a rational instrument to do a job (*Selznik,* 1957). It is an artificially created system which strives to maximise efficiency and management (*Pareek and Rao* 1977) The institution on the other hand is part of a larger system of the community or the society although it is forward looking, adaptive and proactive part of the community (*Selznik,* 1957). Institutions are organisations which incorporate, foster and protect normative relationships and action patterns and perform functions and services which are valued in the environment (*Esman and Blaise* 1966).

Organisation Versus Institution

An organisation's relevance is felt through its output and the efficiency with which the output is delivered whereas the relevance of an institution is felt through its very existence.

An organisation is created on the basis of identification of the desires of the people whereas an institution is related to the society's commonly agreed requirements as tested by its adaptability over time to human needs and values

An organisation is relatively a closed system as its linkages with the environment are mainly through its output whereas an institution is an open system as its linkages with the environment are through its structure, processes and the output.

The achievements of an organisation over time are measured by its ability to survive and grow by adapting to the changes in the environment whereas the achievements of an institution over time include influencing the environment in positive ways as for example through the values it creates and makes it available to the environment.

Individual Values

Every individual has a pattern of needs Needs when activated create a mental tension. Goals of the individuals are related to their needs. Achievement of the goals reduce tension. Individual strive to reduce tension and reach the state of mental equilibrium. The movement of the individual towards the goals may be called as 'behaviour'. Individual goal setting and the behaviour through which the individual seeks to realise the goals are greatly influenced by the individual's self-concept. Self-Concept is a produce of the influences of the family, peer group, reference group and the community.

'Individual values' is the set of conceptions of the individual that

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possession of specific qualities serve as the means to achieve the desired life goals. This forms part of the individual personality. The values have a bearing on the cognitive and affective domain of the individual and act as the frame of reference for the day-to-day behaviour of the individual.

Institution Building

Institution building may be defined as the process of establishing or transforming an organisation into an integrated and organic part of a community in a way that will help the organisation play a proactive role in projecting new values and become an agent of change in the community (*Udai Pareek* 1977). The process of institutional building is viewed as follows :

Institution building is the process of establishing a new organisation or transforming an existing organisation.

Institution building makes the organisation an integrated and organic part of the society It demonstrates how an organisation should function for others to learn from it.

Institution building helps the organisation take on a proactive role rather than reacting to the changes in the society to ensure survival. This necessitates an institution to be autonomous in operationalising the internally generated decisions without external influence.

Institution building helps the organisation to project new values. This is achieved through the processes of self monitoring, self-growth and self renewal.

Institution building processes make organisations as agents of change in the society.

Institution building processes make the organisation grow beyond the natural growth of any other organisation. It is achieved through creativity, effectiveness and experimentation.

Task of Creative Integration

The concept of individual values is psychologically complex. So two individuals do not own identical values. Human beings are basically self-oriented and hence their values are conceived with self-interest. Though the values of individuals constitute the value system of the society, conceptually there tends to be a difference between individual values and the social value system.

Institution building processes have to make the organisation proactive and project new values to the society which has to go beyond excellence in the performance of routine functions to identify the values to be projected to the community, in the interest of the community. The need is to identify the value systems that will lead to the betterment of the society. Hence the institution building processes have to go beyond a social forecast (i.e. to identify what will be the characteristics of the value system at a given point in time) to identify the desired values. Now it may be perceived that the gap between individual values and the desired societal values becomes wider. The task is to instill values in individuals to form a desired future societal value system. This task could be performed only with a tremendous degree of creativity and excellence.

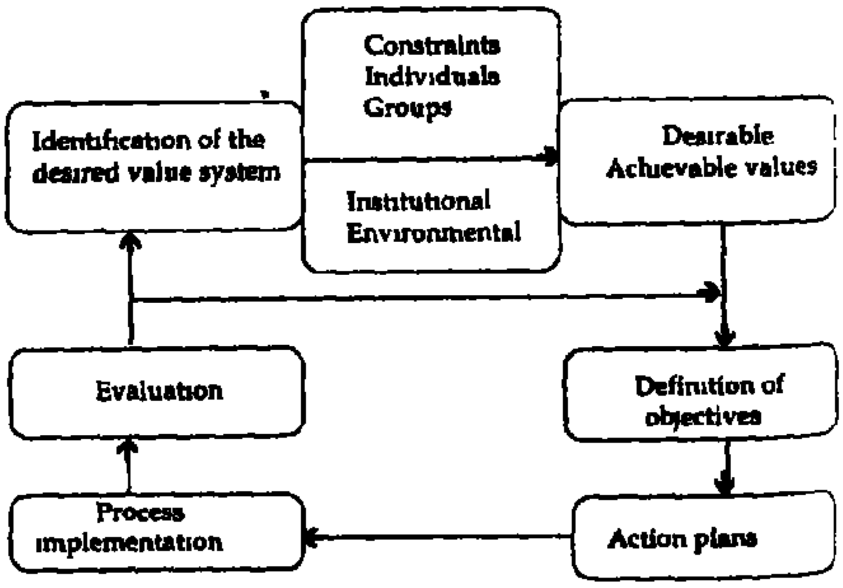
It must be observed that the values of a society have a bearing on the social, economic and political dimensions. For instance, if an individual has a high need for achievement, he is most likely to compromise the need for affiliation and vice-versa. A strong need for achievement may result in a very high degree of self centredness which makes a person have a very low tendency to help others

Moreover, any attempt to inculcate a specific value in human beings is a behavioural intervention The interventions may prove to be dysfunctional if they are not handled by proper persons This necessitates the involvement of behavioural scientists and experts in other related areas like economics, politics and law to lend their hands in the process of identifying and instilling the desired values.

A Model for Instilling Values in Institutions

The above mentioned task of creative integration can be performed in institutions through a series of processes which could be expressed through the following model.

Model for Instilling values in Institutions



Identification of the Desired Values

Individual values and societal values are never static. Institutions have to stay in the society and at the same time play a proactive role by making the society accept new values. The determination of the new values could be made only through a systematic forecasting of the value system. The direction of the changes should be identified to make a meaningful estimate of the values that may exist in the future. It becomes the responsibility of the institutions to foster the changes of values in the positive directions and instill countervalues if the trend is towards negative. The desired values may be listed. They may be subjected to a concept-testing

Defining the Desirable-Achievable Values

All desired values may not be achieved because of several constraints. The constraints may be. (1) Individual constraints, (2) Institutional constraints, and (3) Environmental constraints.

Individual constraints may be due to the ability and/or willingness of the individuals and groups to collaborate with the processes of the institution.

Institutional constraints may be (a) Structural constraints, (b) resource constraints, and (c) time constraints The time constraint is significant because all the stake holders, even employees of the organisation interact with the organisation only for one third of the total available time every day. In case of institutions involved in education, training and research, the length of period of stay of the students, trainees and researchers is relatively short The level of maturity and competence of the stake holders in acquiring and internalising the proposed values plays a role in the process of adaptation The environmental constraints include the ethical, political, technological and legal constraints.

All these constraints force the desirable values to have modifications or restatements. This process results in the crystallisation of the 'achievable values'. The achievable values must be well defined. The behavioural implications of each value component must be explained in operational terms It must be noted that both desired values and the desirable-achievable values are contingent upon the institutional and the environmental factors and hence they are not universal.

Defining Objectives

Achievement of the objectives means the task of inculcating values (at a given situation) is over. The objectives must be defined in terms of the individual or group of stake holders. For instance, the set of statements of objectives may be different for different employee level, students, trainees etc. The objectives must be very clear, and must be stated in a detailed fashion.

Action Plans and Execution

Objectives may be split into action plans which may be executed simultaneously or sequentially. Since values are interlinked, the action plans may aim at inculcation of one or more values at a given period of time The action plan will include the decisions regarding the people with whom the plans should be executed. It also necessitates the tools and methods by which the action plans can be effectively executed. The action plans must consider the requirement of time for the stake holders to know, appreciate, and internalise the values. The action plans must be systematically executed.

Evaluation and Feedback

Evaluation is a continuous process and it serves as the key to the institution to know about itself. Units of observation are to be established. Individual and institutional achievements, the institutional image among the stake holders and the society, and the opinions of key personalities in the society, may serve as the means of identifying the organisation whereas tools of personality assessment (inventories to assess the individual personality and values) may help the behavioural scientists to make an objective study of the internalisation of the desired values and unlearning of the undesired values. Since institution is an open system feed back may be allowed to flow freely both from informal as well as formal planned channels. The product of the evaluation process enables the institution to review and restate the desired values, achievable values, objectives, action plans, the way of executing the action plans and the process of evaluation

Conclusion

Institutionalising values is a function of active collaboration of all the stake holders of the institution. However, the purpose of the organisation is a vital factor in determining the degree of value orientedness to be built in the system. If the institutions' very purpose is to inculcate a set of predetermined value components, the system becomes relatively rigid since the evaluative process aids only to know the nature of achievements in relation to the set of ideal values. These institutions have relatively a very low degree of adaptability. The other factor is the prioritization of the institutional objectives. Higher the priority for values higher will be the scope for planned effort for institutionalising the desired values.

Though all the stake holders are concerned with the processes of institutionalising values, the role of the operational head of the institution is the key for instituting values in the process of the building up of institutions. Heads of the institutions' ability to obtain commitment of the person from whom the authority flows is an important factor in achieving the prescribed objectives. The head has to maintain an effective relationship with all concerned and arrange the relevant conditions for instilling appropriate behaviour determined by accepted abstract principles rather than by conventions or by rewards and punishments. Besides, personal beliefs and attitudes of the head play a vital role. Moreover the head has to maintain a high level of institutional health. This could be achieved through a belief in autonomy, collaborative independence, creativity, proactive behaviour, commitment, functionality, openness and centrality (*Rao*, 1977). The institution builder has to have a high degree of interest to build up a healthy society through the healthy institution with a detached attachment.

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Different Learning Approaches in Multimedia Computer

B. William Dharma Raja*
K. Anandan**
S. Mohan***

Multimedia enhances standard of education technology. Multimedia in education provides a new way for teachers to encourage one of the rare and important elements of learning, *curiosity*. Multimedia is the integration of sound, animation, still images, hypertext and video through a computer programme. Given a pool of instructional resources there are usually very many ways in which they may be utilised in order to produce a lesson or courseware unit. Indeed, we have found that many organisations tend to develop instructional strategies based upon resource combinations that they feel (either intuitively or through experience) best suit their training needs

Advantages of Multimedia Computer

The introduction of multimedia computer in education yields many advantages. Some of them are enumerated below.

1) No wastage of time in rubbing out, drawing and writing on the black board.
2) Easy to learn and operate.
3) Graphs and diagrams can be reproduced perfectly.
4) The animation in the diagrams can go a long way in facilitating quick understanding.
5) Multimedia storage and retrieval system can contain more information than any human training agent can possibly embrace, and can have many terminals through which students can have access to the information.
6) The main educational benefits of multimedia are critical thinking, individualised teaching, learning and the students will learn at their own time and pace

These benefits of multimedia computer in education and training are achieved through different approaches such as Audio Visual Computer Aided Tutor, Computer Aided Visual Instruction System, Interaction Video Information System, Computer Guided Learning System, and LOGO Learning System

1 The Audio Visual Computer Aided Tutor System

The Audio Visual Computer Aided Tutor (AVCAT) employs slides and audio recordings as the major instructional media within the student work station. In view of this, existing sequential tape/slide training material can easily be modified to operate with AVCAT Of course, the effectiveness of such material is greatly enhanced by the highly interactive features of the system.

Main Features of AVCAT

1) a powerful interactive student work-station,
2) student response by simple keypad or touch screen,
3) lesson delivery by audio and visual means,
4) very high resolution with full colour visuals,
5) full branching capability,
6) no computer expertise required for lesson preparation,
7) only conventional audio-visual techniques and materials used,
8) the system has a student assessment capability, etc.

The instructional material is composed from blocks of instructional audio messages and their supporting pictorial images, with questions at the end of each block to assess the students' progress. The audio messages and the branching instructional programme are stored on C90 audio cassettes. The visual content of the lesson is held on 35 mm slides. Both the audio and slide delivery subsystems are rapid random access devices enabling efficient branching to take place.

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2. The Computer Audio Visual Instruction System

Computer Audio Visual Instruction System (CAVIS) is a practical commercial example of this approach to instruction. The system provides a teaching facility that integrates the use of video cassette pictures, text, videotex and animation, and presents these on a single television screen with supporting sound effects Materials which originate from film, slide and video tape can be transferred to the system for use in an instructional process. In addition, a variety of Computer Based Trainings (CBT) are available to enable the teacher to author text and diagrams and also control the way in which the instructional resources are used.

The complete workstation includes a VCR, a student keypad, a pair of headphones, a TV display monitor, the author's keyboard and a micro computer unit that is fitted with a magnetic disc storage system. The video cassette stores the audio and video information and the magnetic disc stores all the text and diagrams. In addition, the latter also contains the control software. This is responsible for handling the overall operation of the system and also guides the direction in which learning progresses as a result of student interaction with the system.

Modes of Use

The CAVIS workstation may be used in either of two operating modes — one for the student and one for the instructor In teaching mode, the student has access to a simple keypad which is used to enter responses to questions presented on the screen or by a spoken narrative. The keypad also enables the student to inspect the index CAVIS courseware and to skip, recap or search any particular point of interest.

The instructor has access to a full alphanumeric colour coded keyboard and screen editing facilities. These enable pages of text and/or videotex graphics to be recorded and saved on the magnetic disc They also permit subsequent revision of stored pages. No knowledge of computers or typing skills are assumed. Whenever it is appropriate, CAVIS issues guidance and help messages in order to assist authoring and editing. A page of information corresponds to one complete screenful. Each magnetic disc can store up to 200 pages of material Retrieval of any one of these pages — either within the presentation of courseware (during teaching mode), or during editing — is within 0 5 second. This facility therefore allows slow animation to be presented.

During lesson development the CAL presentation can be programmed to adapt to student responses with text and also with branching video sequences. In addition the multimedia capabilities of CAVIS enable the author to use text, video pictures, text overlaid on video pictures and videotex pictures. Dynamic diagrams can also be presented in a sequence and combination that makes the delivery of information most effective As an authoring aid, a special magnetic disc containing an analysis facility is supplied so that student's responses, viewing patterns and video cassette performance can be checked. Thus using this evaluation facility, accumulated records can be processed to provide a detailed analysis of how a number of students studied specific courseware. This enables teaching material to be checked sequence by sequence for deficiencies. Using the editing and authoring facilities, deficient courseware can be quickly and repeatedly recycled until a defined performance level is achieved The teaching efficiency of CAVIS is regarded as being in the range 80-100 per cent mastery of content.

3. The Interactive Video Information System

The Interactive Video Information System (IVIS) multimedia workstation consists of a keyboard, high resolution colour Cathode Ray Tube (CRT) display, a pair of headphones (and/or audio speakers), a video disc player and a microcomputer system.

The video images presented on the display minitor can be dynamic or still frame Two audio channels are available. They can be employed singly, alternately, in stereo or as four monophonic channels. Depending on the lesson material, being presented, the audio could consist of narration, a life-like conversation, special sound effects, music or any combination of these. The CRT monitor allows bit-map text and graphics to be displayed alone on the screen, or they may be overlaid onto dynamic and still frame natural video images. The resolution of the bit-mapped text and graphics is 960 (horizontal) by 240 (vertical) displayable pixels In order to enhance definition between overlays and an underlying video image, drop shadowing can be applied to both text and graphics with a width of from 1 to 15 pixels. Virtually any kind of graph, tabulation, labelling, geometric shape and pictorial overlay can be created. The overlays can be in any simultaneous combination of eight colours selected from a range of 256. IVIS trained students learn upto 53% faster and with better retention — than students trained by conventional methods.

4. Computer Guided Learning System

The approach used by Computer Guided Learning System (CGLS) for customer training illustrates the use of an open learning arrangement in which students attend a 'Guided Learning Centre' at times when it is most convenient for them to come.

A Guided Learning Centre course is composed of a series of modules. Each module is self contained; that is the module booklet contains the student's objectives and text for that module, directions to complete the module, examples, exercises and progress checks or examinations. Each student covers topics step-by-step and can regulate the pace and depth of learning. Material may be recapped or repeated until a satisfactory level of understanding has been reached. This learning method undoubtedly encourages a high level of comprehension. The materials used in Guided Learning Centre education are designed to allow the study of a single concept, give immediate practice of that concept, and provide the student with the results of the practice. The practice may consist of coding a programme, following an instruction with the aid of video disc or audio tape or completing an exercise at a terminal.

5 LOGO Learning System

LOGO is essentially a special purpose, procedural, high level programming language. It originated from the Massachusetts Institute of Technology (MIT) in the 1960s The language was developed for the specific purpose of making computers make sense to children.' LOGO seeks to develop cognitive and linguistic skills as children use the computer to draw pictures, solve puzzels, play games and generate music.

One of the most attractive features of LOGO is its turtle graphics The turtle is a small object that is able to draw pictures as it moves around under the student's control. Student control of the turtle is accomplished by means of a series of simple English-like commands (such as Forward N, Left N, and so on).

LOGO learning environment consists of a microcomputer keyboard, a CRT screen and small mechanical turtle to which is attached a pen. The turtle is connected to the host microcomputer by means of an interface box.

Application of LOGO

The areas of application that have been most widely explored relate to the teaching of mathematics and science. It has also been used extensively as a communication aid and research tool for instructional studies with handicapped children.

Within the context of mathamatics teaching, LOGO environments have been utilised for the provision of instructional aid for both teachers and students. Within science, LOGO has been employed for the teaching of Newtonian Physics (using a dyna-turtle), orbital motion, music and so on. Generally, for teaching within the physical sciences, LOGO is useful since it can be used to construct 'microworlds' in which bodies obey different natural laws. By exploring these artificial microworlds, children can develop better intuitions about the properties of their own corner of the universe. Through the use of appropriate CRT animation techniques (for example, sprite graphics), LOGO can be used to create powerful and stimulating microworlds. These can be constructed by combining the effects of both static and dynamic imagery. The dynamic images consist of many moving objects (sprites) of different size, colour and shape that move in front of extremely colourful and vivid static background (or backdrop) scenes.

Conclusion

The afore-said approaches reveal that the use of multimedia in education enhances teaching efficiency. Moreover the students learn faster and have better retention than the students trained by the conventional methods. The reasonable man adapts himself to the present needs of the world. Why can't we keep pace with the modern approaches in teaching-learning process and thereby diminish the gap between the traditional method and the advanced technology in the field of education?

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Small Group Teaching Strategies

K.Y. Benedict*

"The destiny of India is now being shaped in her classrooms", one of the assertions of Kothari Commission, finds ample use by all who want to talk or write on education. The statement throws light on the importance of the place called 'classroom' in a formal system of education. It is really the place where the mature personality of the teacher influences the immature personality of the student. Clearly speaking, the way by which the teacher-student interaction that flourishes in the classroom decides the nature of the expected behavioural outcome.

The achievements of students in todays classrooms are really crunched by overcrowded classrooms, insufficient classroom facilities, outdated teaching-learning strategies etc. Whatever be the other factors, the teaching-learning strategy adopted by the teacher decides largely the terminal behaviour of learner. In this context, the small group teaching strategies may be a most rewarding experience, which now-a-days gains popularity in secondary and tertiary levels of eduction.

Characteristics of Small Group Teaching Strategies

A small group teaching strategy doesn't mean a lecture given to a limited group of students. Any teaching strategy which claims to be called as small group strategy must exhibit the following specific characteristics :

i. Active Participation · The first and the foremost nature of a small group teaching strategy is that it must lead the members to a process of learning by active involvement of all the participants. Many recent researches in this area suggest that a tutorial atmosphere is highly essential to ensure effective teaching and learning in a small group. If so, the number must range between 10 and 15 But in Indian context a group upto 20 can be considered as a small group.

ii. Face to Face Contact . A thickly packed lecture or lecture-cum-demonstration class suffers a major setback from the absence of face-to-face contact, which is an essential condition for teacher to learner and learner to learner communication. So the second characteristic that a small group teaching strategy must possess is face to face contact.

iii. Purposeful Activity : The third characteristic of a small group teaching is that the session must have a purpose and must develop in an orderly way. The purpose must be the development of various faculties of all the domains — Congnitive, Affective and Psychomotor (*B.S. Bloom* 1967). So the selection of instructional objectives is a major factor in fixing the purpose of small group teaching strategies.

Why Small Group Strategies?

Two reasons can be put forward to support the approach of small group teaching. The first of these is the social and the other is educational. For many students, the small group provides an important atmosphere referred to as the social ecology, which provides the crucial social contact with peers and teachers. The development of such social ethos and values is the very determinant of the overall educational objectives. Development of higher level, intellectual, affective and manipulative skills such as reasoning, problem solving, valuing, analysis and synthesis, accepting feelings, development of attitudes, acquisition of interpersonal interaction ability, use of language and comprehensive ability, group dynamics and leadership qualities etc. takes place through small group teaching strategies. These skills, ultimately lead to the integral development of the personality of the student. The clear distinction between social and educational values of small group teaching strategies is very narrow, but it is very important in creating the classroom climate suitable for a democratic management of the classroom interaction

Modes of Small Group Teaching Techniques

The various ways by which the small group teaching strategies can be employed are referred to as modes They include i. One to one discussion, ii Buzz groups, iii. Brain storming, iv. Role playing, and v. Evaluation discussion.

One to One discussion : If finds use as an 'ice-breaker' when the group meets first and helps in enhancing the listening skills, Here the group members including the teacher are divided into pairs and each person is numbered as 'A' or 'B'. Person A talks to B, uninterrupted by B for a period of 2 to 3 minutes. Then the role is reversed. The talk between them includes matters on their whereabouts, expectation from the course etc. The group then reassembles and each person introduces himself and gives a summary of the other peson's de-

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scription. The one to one discussion can be used to discuss controversial or ethical issues also.

Buzz groups : Buzz group encourages maximum participation of students in the small group at a time. Here the group is divided into further small groups of 3-4 students. Discussion is held for a few minutes. The process of 'buzz' occurs due to active verbal interaction. The group comes to a common solution and then reports back to the entire group. Buzz groups are highly useful when too many people are trying to contribute at once.

Brain storming : Brain storming is highly useful to elicit creative thinking to solve a problem. A continuous practice on brain storming develops divergent thinking capacities among students. In brain storming the major thrust is on the development of novel ideas and not on the quality and applicability of the thought originated. So a brain storming session must abide by the following rules,

i. Criticism by participants is not welcome at the idea generation stage,

ii Ideas of any nature and extreme are welcome,

iii. Quantity of ideas is given preference, and

iv Combination and improvement of ideas will be sought once all the new ideas are obtained.

The stating of the problem to the group, a period of silent thought, writing the individual ideas on a sheet of paper, recording of all the ideas on a blackboard, combination and improvement of the ideas are the stepwise procedure in brain storming

Brain storming now-a-days finds more areas of application other than classrooms and is an effective tool to sharpen the creativity of the learner.

Role playing : This is one of the very powerful modes of small group teaching. A role play is very valuable in teaching inter-personal communication — both verbal and non-verbal skills, particularly in areas with a high emotional content. Role playing was found to be useful in modifying perceptions and to bring about an empathetic attitude.

Explaining the nature and purpose of the play, defining the settings and the situation, deployment of the students to particular roles, description of the script, sufficient practice, specifying the task for non-players, finding out suitable time and place to perform the play etc, form the sequential procedure in organising a role play.

Evaluation and feed back regarding various roles is important for improvement. It is a technique which demands some experience and insight on the part of the educators. So before fusing role play session in a course, helps from members of various faculties must be sought for effectiveness.

Evaluation discussion. This is a mode used to identify the merits and demerits of the small group teaching itself. Here, the students themselves review the progress of the method and materials in use. Each member is free to make a written statement on the performance of the small group including the teacher. Then this will be read to the entire group and the other members of the group are free to raise queries. So for an effective evaluation discussion an atmosphere conducive to puting forward negative and positive information is essential.

In the present system of formal classroom procedure, a high level of rigidity is observed. Many of the people who raise voice for change are reluctant to practice the change. Recent research studies cement the observation that a student usually gains knowledge, attitude, behaviour and skills with respect to the *mental schema* which they have already created. So a non-formalised presentation of content in classrooms without breaking the formal discipline is a need of the hour to initiate a progressive *schema shift*, which gives a realistic view of life to the learner. At this juncture the small group teaching strategies find a major role to play.

Advantages of Small Group Teaching Strategies

1. Learner oriented,
2. Brings a democratic classroom climate,
3 Individualisation of learning,
4. Training to adapt to various situations,
5. Development of a logical and rational thinking capacity,
6 Flourishing of creativity and interpersonal communication skills,
7. Development of higher order faculties of various domains, and
8. Life orientation by taking various responsibilities by students.

As a teacher or educator, we have to approach the small group teaching strategies with caution. This approach is considerably more difficult to manage than a lecture, because the teacher must have a close account of the student's behaviour, personalities and difficulties. Here the teacher has to adopt a more co-operative role than a controller. "The shift of emphasis for the lecturer from primarily a teaching or lecturing role to one of facilitating learning can be enormously rewarding" (*Elizebeth Clerk* 1995). This is a hard concept to be accepted by most of the teachers, but it is highly rewarding when one accepts that this freedom is the real satisfaction that a small group teaching strategy brings rather than considering us as the dispensers of knowledge or content experts. So it is the right time for teachers to make a shift of role by practising small group teaching strategies in their classrooms.

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BIRLA INSTITUTE OF
TECHNOLOGY & SCIENCE
PILANI (RAJASTHAN) [illegible]

FACULTY RECRUITMENT ADVT. NO. FR / 1 / 98.

Applications are invited for positions of Professors/ Associate Professors/Assistant Professors in Chemical, Civil, Electrical & Electronics, Mechanical, Software Engineering, Computer Science, Instrumentation, Pharmacy, Biotechnology, Management and Economics.

Some positions of Lecturers are also available in Humanities, Social Sciences, Biotechnology, Physics, Mathematics, Chemistry and English Candidates for Lecturership should normally be Ph D Candidates with M E in engineering disciplines will be considered for Assistant Lecturership with provision for work for Ph D Higher cadres/starting salaries possible for deserving candidates B E /M Sc with good academic records can apply for Teaching Assistantships with provision for work for higher degree programmes alongwith teaching

A booklet **"Introducing BITS to Prospective Faculty"** giving details and prescribed format of application can be had by sending a pre-stamped (Rs 10 00) self-addressed envelope (30x25 cm) marked FR / 1 / 98 alongwith a brief biodata (age, qualifications, experience, etc) to the Registrar

PILANI
May, 1998. **REGISTRAR**

UNIVERSITY OF DELHI SOUTH CAMPUS
INSTITUTE OF INFORMATICS &
COMMUNICATION (IIC)

ANNOUNCES ADMISSION TO INNOVATIVE AND FLEXIBLE TWO-YEAR M.Sc. (INFORMATICS) AND THREE-YEAR MASTER OF INFORMATION TECHNOLOGY (M.I.T.) PROGRAMMES, STARTING JULY 1998.

These programmes have been designed to meet the growing demand for I T professionals The courses have been designed in close collaboration with the I T Industry, academic institutions, and other organizations, and will emphasize computer communication and networking

Eligibility : A candidate must hae passed B Sc (H) Physics or B Sc (H) Electronics or B Sc (H) Chemistry or B Sc (H) Mathematics/Statistics with Physics as subsidiary, B Sc. (three subject scheme), with Physics, Mathematics (and one of Chemistry, Electronics, Computer Sciences etc) B Appl Sc (Electronics/Instrumentation) from the University of Delhi or have equivalent qualification from a recognized University/Institution with at least 50% marks

OR

A candidate must have passed B E./B Tech degree examination in Electronics and Communication/Computer/Electrical/Instrumentation from the University of Delhi or have equivalent qualifications from a recognized University/Institution with at least 50% marks

Students appearing/appeared in the final examination of the above courses may also apply A candidate must have attained at least 20 years of age, as on the 1 October, 1998

Number of Seats : The total number of seats for both M Sc and M I T put together will be 40 There will be no fixed number of seats for M Sc and M.I T separately

Reservations/Relaxation : 15% of the seats are reserved for Scheduled Caste candidates 7 5% of the seats are reserved for Scheduled Tribe candidates 5% of the seats are reserved for children/widows of the officers and men of Armed Forces including para-military personnel killed/ disabled in action **Relaxation to the extent of 5% in the minimum marks for eligibility will be allowed to these categories.**

The entrance examination will be held in Delhi on Saturday, 27 June 1998. Details are available in the Information Bulletin.

How to Apply : The Information Bulletin and application form for admission can be obtained on payment of Rs 100/- in cash or by demand draft between 10 00 a.m. and 1 00 p.m , or by post on payment of Rs 120/-, only by demand draft, from the office of IIC, Library Building, University of Delhi South Campus, Benito Juarez Road, New Delhi-110 021 **Demand drafts should be payable at the State Bank of India, University of Delhi South Campus, New Delhi (Code No. 7687), in favour of : The Director, University of Delhi South Campus. The duly filled application forms, along with the prescribed fee for the entrance examination, should reach the IIC office latest by 10 June, 1998.**

R.K. Goel
http://www.du.ac.in/iic.htm **DEPUTY REGISTRAR**

Academic-Industry Partnership
Keeping Pace with IT Revolution

P.S. Grover*
Md. Afshar Alam**
Shakeel Ahmad***

Information Technology (IT) is witnessing an unparallel revolution. Computer education — both in the formal and informal sectors — has been expanding and growing at equally fast pace. We are in the midst of a revolution that is shaping our society. There is an extremely large demand for properly trained computer scientists, IT specialists and professionals. Universities and other academic institutes are running various courses, such as MCA, M.Sc., B Tech, M.Tech, PGDCA, B.Sc., BCA and so on. Learning curricula of these courses are not able to keep pace with the rapid advances that are taking place in the software and hardware technology. There can be many reasons and explanations, but the fact of the matter is that, our academic curricula is way behind the developments in the field of IT and lack badly as far as practical aspects and hands-on experience is concerned.

We need to re-engineer our curricula and teaching methods in the light of the developments in IT. Traditional methods need to be supplemented by tools, such as E-mail, Multimedia, Internet and so on This may require training and re-training of educators as well. Educators need to learn how to use these new techniques and merge them in their teaching armoury so that students can learn the latest technology trends in their classes. While re-engineering our curricula, we need to hold the balance between foundation (academic depth) and practical training contents. Industry sector is quite strong in practical aspects whereas, university teaching has strong theory and academic contents Both are needed for proper learning and developing the knowledge and skills of computer science/engineering students. What is needed is the fusion of industry practices and theory part of the course. So far this has been difficult, somehow. But during the last decade or so, the informal education sector, which lays more emphasis on developing practical and applied skills, has come up in a big way Many international IT players, such as Microsoft, IBM, Novel, Oracle and others have entered the training field. They have set-up their own education centres or Authorised Training Centres (ATC) of their products, and provide world-class skills and certification as well. Most of these centres have the latest software and their training is generally based on the current software (s/w) tools, though they be their own proprietary tools. Role of ATCs may be considered as somewhere between the formal teaching and industry environments. They can play an intermediary role between the two. We expect many more ATCs being set up, even by Indian companies as well, in the near future. It is expected that ATCs have well-trained staff, current software tools and quality standards in their chosen area of training. They upgrade their tools and teaching skills on continuous basis.

It should be possible to develop and design curricula of topics, such as database, networks, operating systems, distributed computing, multimedia, internets and intranets and others, i.e. wherever possible, that incorporates the practical skills along with the foundation/theoretical contents as covered by the university system. By being proactive, we in the universities, can build syllabi that includes the practical learning as well on the current software tools This component can be taught or delivered by the professionals from such ATCs. Our courses can be re-engineered to incorporate the practical training around state-of-art software technology tools and thus keep pace with the latest developments in the field of IT and computers. To do so, we need to develop partnership and linkages with the IT industry trainers and educators.

Hardware is cheap but not software. S/W also goes on changing. No institute can think of keeping pace with the changing S/W technology. In order, that our students are exposed to the latest IT developments, it is essential that they are trained on the current software tools, as far as possible. Say, for instance, we want to build and develop a meaningful and reasonably good application in the Distributed Computing Course, we need the support of technolo-

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**Professor, Delhi University and Advisor, Hamdard University, New Delhi.*

***Incharge Computer Centre and Member, Planning and Development Cell, Hamdard University, New Delhi.*

****Member, Planning and Development Cell, Hamdard University, New Delhi.*

gies such Windows NT, CORBA and other tools. A university teacher can excellently handle the theoretical aspects, but not the practical implementation and related issues. These can be very well handled by an industry expert or teacher from the ATCs. An expert from industry hardly finds any time to come to the educational institute and deliver a course. However, if partnership is developed with the authorised training centres, an expert from there can teach the practical aspects of the course. Thus, a course is taught jointly by the university teacher and a person from the training centre. The training centre will provide the necessary software tools and expertise to teach and implement the practical applications. Delivery of the course will be better. Following this approach, courses will have requisite theoretical and practical inputs. There will be cost for this, no doubt, but depending on the number of students and course, it is not going to be too expensive. Teachers of the university can even participate in the teaching of fundamental concepts to the students of these ATCs, maybe on the reciprocal basis. Every participant-student, teacher, institute and the training centre is benefited by this synergy. Delivery of the course becomes much more meaningful than otherwise. By involving Training Centres this way, the curricula will be updated automatically. The collaboration can be worked out on short or long term basis. This kind of partnership will be beneficial to the software industry as well. As for example, students would have the necessary practical exposure to the relevant software tools and be strong in fundamentals as well. There will be lower training costs of new hirers and they can be productive from the start. Employability of students will become very high, not only in the national but also in the international market. Our students will be universally accepted for their practical skills and exposure to state-of-art software tools.

The University-ATC partnership has another beneficial effect. Teachers and students would have been exposed to industry culture as well, while being in the university, along their normal routine and learning, at an early stage. Teachers and students can undertake real-life projects from the software industry. This would help the academia to gain from the vast industry experience — which is practical, collaborative, realistic and goal-oriented. It is well known that teachers/students work on projects that are generally open-ended, deadlines are not very strict and the projects are rather small. On the other hand, industry projects are always time bound, cost sensitive and schedule based. ATC linkages will also create industry practices awareness among the students and staff. In turn, this would create a profound motivation to learn and thus, be able to participate in the ongoing IT revolution. Students would get enough time to assimilate and absorb what they have learnt in an open and free environment that the academic world offers.

This kind of partnership may bridge the gap, to a sufficient extent, between what the industry needs and what an academic institute can deliver, without compromising the fundamentals and foundations of computer science and technology. At the same time, benefits of IT revolution and developments will become part of computer education system.

BIRLA INSTITUTE OF
TECHNOLOGY & SCIENCE
PILANI (RAJASTHAN) INDIA

FACULTY RECRUITMENT ADVERTISEMENT NO. FR/2/98.

Applications are invited for Professors/Associate Professors/Assistant Professors from candidates of any age group capable of giving leadership in teaching, research, course development etc in the following areas .

1. **COMPUTER SCIENCE** : Parallel Processing, Distributed Computing, Computer Architecture, Electronic Systems Design, Object Oriented Analysis and Design, Operating Systems, Software Engineering, Relational Data Base Systems, Virtual Reality and Multimedia Engineering *Candidates with Ph D in Mathematics or Physics with background and aptitude in above areas may also apply*
2. **ELECTRICAL AND ELECTRONICS ENGINEERING** : Microelectronics, Integrated Analog and Digital Circuits, Signals and Systems, Digital Signal Processing, Artificial Intelligence, Intelligent Systems, Fibre Optic Systems, Transducers and Instrumentation, Power Electronics and Power Systems *Candidates with Ph D in Physics with background and aptitude in above areas may also apply*
3. **MECHANICAL ENGINEERING** : Mechanics, Materials, Machine Design, Dynamics, Design and Vibrations, Thermal Engineering, Automobile Engineering, Automotive Electronics, Production Techniques, Robotics, CAD / CAM /CIM
4. **CHEMICAL ENGINEERING** : Process Control, Heat Transfer, Petrochemicals and Refining, Polymer Engineering, Pollution Control *Candidates with Ph D in Chemistry with background and aptitude in above areas may also apply*
5. **CIVIL ENGINEERING** : Structural Dynamics, Water Resources, Transportation Engineering, Infrastructural Systems, Remote Sensing, Environmental Engineering
6. **PHARMACY** : Medicinal Chemistry, Phytochemistry, Drug Delivery Systems and related areas
7. **BIOTECHNOLOGY** Transgenic Recombinant DNA, Membrane and Liposome Technologies, Bio and Protein Processes, Tissue Culture, Fermentation, Immunology, Microbial Techniques, Emerging Areas

Academic ranks and salaries will be commensurate with qualifications and competence of the candidate

Applications with complete bio-data and references, indicating special area(s) as above may be sent **within three weeks** from the date of this advertisement to the undersigned

Place : PILANI
May, 1998. **REGISTRAR**

The University Degree

Shri V. Karthikeyan, Former Chief Secretary to the Government of Tamil Nadu & Former Adviser to the Governor of Tamil Nadu delivered the Convocation Address at the Thirteenth Convocation of the Bharathiar University, Coimbatore. He said, "Now, what is a University Degree for? Most of the seekers of the Degree seem to think, it is a passport to gainful employment. In the technical and professional spheres, it is considered a licence to practise a particular profession or calling. While this view is not wrong, it does not tell the full and the basic value of university education." Excerpts

Let us first look at the picture of University education in the Country and in our own State. Madras University is the oldest, started in 1857. University education expanded at a relatively low pace before India gained freedom in 1947 and in the subsequent fifty years, the growth has been very significant and fast. In 1993-1994 there were 220 Universities and 8210 Colleges in India. Tamil Nadu has now more than 17 Universities and 490 Colleges. This much of quantitative expansion has been warranted by demand and is clear evidence of the desire for higher education emanating from the socially, educationally and economically weaker sections of the population. The response has come from both the public and private sectors.

It has to be admitted that this big spurt in expansion has also resulted in noticeable fall in academic values and standards. The top ten per cent of the students of our universities do perform very creditably and stand second to none in their talents and achievements. They generally move out of the country and seek greener pastures. In the next slab also, a good chunk of the output enters professional and technical colleges, especially Engineering and Medical Colleges, and achieves laurels. The rest of the graduates and post-graduates largely remain within the country and enter very many fields of employment, both governmental and non-governmental. It is in this substantial sector, the fall in standards is visible and there is urgent need for improvement.

Let me quote from a recent speech of Sri. N.R. Madhava Menon, Former Director of the National Law School of India University, Bangalore on "Reforms in Legal Education" He observed that there are 433 law colleges in the country, churning out 25,000 'unemployable' law graduates. Only 35 per cent of them enters the profession but the system is skewed in favour of the 65 per cent which does not join the field. That 65 per cent brings down the quality to its lowest common denominator. Prof. Menon advocated selective admission, serious teaching and a skill-testing exam system. I am inclined to think that these frank observations and the remedies suggested by Prof. Menon are truly relevant even to non-law colleges in our state and the country.

Having been associated with selections to the IAS and other civil services by the Union Public Service Commission and having chaired a committee in 1998 on the 'Falling Share of Tamil Nadu in the Central Civil Services Examinations', my own assessment of the current situation is on the lines expressed by Prof. Menon. In the Committee's report, we pointed out the weakness of our university students in the command of language (both English and Tamil) and in general knowledge. That the syllabi for various courses have to be regularly upgraded was also emphasized. These deficiencies have to be urgently remedied.

Our Universities also face severe financial crunch. The Block Grant made by the State Government is neither adequate nor even timely. The quantum of grant has to be raised substantially and the disbursement must be made on fixed dates for each quarter of the year.

To supplement the resources coming from governments directly or through the UGC, it will be advisable to establish more and more links with Industry, particularly for Research and Development Projects which will benefit both the partners and the students as well. This is done is a big way in the advanced West and there could be no harm in adopting the facility in our country, of course, with due care and caution.

Now, what is a University Degree for? Most of the seekers of the Degree seem to think, it is a passport to gainful employment. In the technical and professional spheres, it is considered a licence to practise a particular profession or calling. While this view is not wrong, it does not tell the full and the basic value of university education. Swami Vivekananda talks of 'man making education'. Western scholars believed that University education would convert ordinary men and women into 'gentlemen and ladies'. William Hazlitt has spoken of persons with a 'seeing eye and an understanding heart'. It is thus clear that the aim of university education is not merely the sharpening of the intellect or the augmentation of memory power. It is also the development of the mind and the enrichment of the human personality to the limits of its full potential.

Mind is the vital key to good life on earth. Mind is the birth place of all thoughts. Thoughts lead to action. Action produces results. One cannot escape the consequences of his or her actions. Hence, the mind has to be controlled, disciplined, trained and refined. An educated person, a graduate, with his learning and powers of observation and understanding of human nature and, the laws of the Universe, is expected to be a 'gentleman'. A gentleman never hurts other and always behaves with tolerance and patience. Good behaviour and good conduct are given the highest value in *Thirukkural*, otherwise known as Tamil Vedam Kural 131 says "Since good conduct confers exalted status, it will be conserved even dearer than life."

We are about to enter the 21st Century. There are clear indications that the coming Century is going to be very different from the current one, for many reasons. Even the natural forces are predicted to behave differently, due to the Green House Effect and the EL Nino phenomenon. Pollution of air, water, soil, food and drugs are likely to pose very serious problems, leave alone noise pollution.

Computers, the Web and Internet facilities will shrink the world in size and time. Access to information available in any corner of the world to those living and working in any other corner will be easy, instantaneous and even dangerously unrestricted, injuring the privacy of the home.

Competition in the economic sphere between the developed economies and the developing economies is likely to become stiffer and various alignment and groupings of nations are likely to emerge.

Science and Technology are likely to achieve far-reaching and mind boggling break-through, resulting in new products and new services. This may also lead to new opportunities of employment and the disappearance of some of the old world practices and articles of use.

Very great changes in the social and religious lives of the people are also on the cards and the youth of the country have to prepare themselves to face these challenges boldly and with self-confidence and convert the challenges with wonderful opportunities. At the same time, the basic unity and the composite culture of this ancient motherland of ours should never be lost sight of.

India is the largest democracy in the world and we attained freedom from British rule under the unmatched leadership of Mahatma Gandhi who relied entirely on non-violence and truth for achieving the nation's goal. You, the students, have been fortunate to receive your Degrees in this 50th year of our freedom and you must now address yourself to the solution of the major problems of the Country with the same sense of dedication and determination as our Freedom Fighters displayed before 1947.

First of all, you will have to recognize that you have become a full-fledged citizen with voting rights on attaining the age of 18 years. The Ballot Box is considered the most valuable discovery in the political field and in a democracy, any change of government or of any policy or programme can be brought about only by careful exercise of the ballot privilege. In the recent elections to the Twelfth Lokh Sabha, it was expected that the youth of the country will vote with gusto and express their political will in a significant manner. However, I find from press reports, that this expectation has not come true and most of the newly recognized young voters have not gone to the polling booth at all. Why? Is it indifference or lethargy? Is it because they found no party, no candidate worthy of their support? Whatever be the reason, it is a pity that they have not availed of a wonderful privilege which might have contributed to the betterment of the nation as a whole. I hope the future elections will receive better response from our youth.

The next vital point I wish to stress for the consideration of the youth is the urgent need for empowerment of our women in the nation's public life. The existing gender disparity in all aspects of life has to go and earlier its exit, the better for the country. Women are roughly 50% of the population but in political life, they continue to be poorly represented.

TO OUR SUBSCRIBERS

Please quote your subscription number and the Postal Pin Code in all correspondence with the *University News*.

Here are the figures from 1952 to 1996 for the Lokh Sabha.

Year	Total No.	Women Members	Percentage of women members
1952	489	22	4.4
1957	494	27	5.5
1962	494	33	6.7
1967	520	30	5.8
1972	520	21	4.0
1977	542	19	3.5
1980	542	28	5.2
1984	542	42	7.7
1989	529	27	5.1
1991	521	39	7.5
1996	543	39	7.18

The lowest is 3.5% and the highest is 7.7%. This is not due to any fault on the part of women candidates In all the ten elections from 1957 to 1996, women candidates have achieved a much higher percentage of success than the men among those who contested.

The Bill pending before Parliament for the reservation of 33% of the seats to women in Legislatures including Lok Sabha deserves to be passed into law without loss of time. Young voters like you will have to take it up as a priority issue. Human Rights Violation in our country and in other parts of the world is now looming large and it seems to thrive and even grow, without any limitations of time and space. Causes are many. Poverty, ignorance, illiteracy, physical and/or mental disabilities, prejudices and exploitations of various kinds, poor enforcement of laws, dilatory and costly judicial proceedings and historical factors are among the main causes. The disabilities suffered are again very varied and even prolonged and very painful. Sexual harassment in work places and child abuse are also on the increase. The educated youth of this country have a duty of organize resistance to violation of human rights wherever they occur and whatever form they take and help bring the offenders to book. Cruel and undignified ragging in colleges and universities also will fall under this category.

Another serious menace growing in the educational campuses is the drug addiction and drug abuse. Some countries like Pakistan, Thailand are very badly caught in this field. Reports show even in our country the problem is serious enough and must be effectively curbed. I appeal to the youth to educate themselves about the ill effects of drugs and keep away from them, resisting all temptations and inducements.

One more point and I am done. There is a visible trend among science students to ignore humanities totally. In my considered view, this is not a desirable trend. Science develops the intellect. Humanities develop the mind. Social studies deal with people, their achievements and failures, their feelings and emotions and it is absolutely essential that humanities should also be studied to a certain extent, even by science lovers

JAWAHARLAL NEHRU UNIVERSITY

Announcement For Admission to Part-Time
Language Programmes 1998-99

Applications are invited for admission to the following one year (Two semesters) Part-Time Programmes of Study in the School of Languages of the University

A. PROGRAMMES OF STUDY : 1) Advanced Diploma in Mass Media in Urdu, 2) Advance Diploma of Proficiency in Portuguese, 3) Diploma of Proficiency in Italian, Portuguese, Pushtu & Bhasa Indonesia, 4) Certaficate of Proficiency in Italian, Mongolian, Portuguese, Pushtu, Bhasa Indonesia & Urdu.

B. ELIGIBILITY

1) **Advanced Diploma in Mass Media in Urdu :** Atleast Bachelor's degree under 10+2+3 pattern of education with Urdu as one of the subjects or an examination recognised as equivalent thereto
2) **Advanced Diploma of Proficiency in Portuguese :** Atleast Senior School Certificate (10+2) or equivalent with Diploma of Proficiency in Portuguese
3) **Diploma of Proficiency :** Atleast Senior School Certificate (10+2) or equivalent and Certificate of Proficiency in the language concerned or an examination recognised as equivalent thereto
4) **Certificate of Proficiency :** Atleast Senior School Certificate (10+2) or equivalent

C. RESERVATION OF SEATS : 22.5% (15% for SC & 7.5% for ST) and 3% of seats in each programme of study are reserved for SC/ST and Physically Handicapped candidates respectively

HOW TO APPLY : Application forms together with detailed Instructions Booklet indicating selection procedure etc for admission to each programme of study can be had either personally from the office of the **Deputy Registrar (Admissions), on cash payment of Rs. 60/- per set from 2.30 p.m. to 5.00 p.m.** on all working days (Monday to Friday) or by sending request alongwith Bank Draft/Banker's Cheque/Pay Order for Rs 80/- payable to the **Jawaharlal Nehru University, New Delhi alongwith** a self addressed unstamped envelope of 28 cms x 20 cms size with the words "Part-Time Programme of Study" inscribed on it Separate application forms are required to be submitted for each language/programme

Issue of Forms : From May 6 to June 10, 1998.
Last date for receipt of Completed Forms : June 12, 1998.

Recent Trends in Food Processing

"Food-processing industries in India are poised for a "quantum jump" as over 4000 crores investment is expected in next five years", said Dr. Manju Sharma, Secretary, Department of Biotechnology, Govt. of India. She was inaugurating the National Seminar on "Recent Trends in Food Processing" at the Department of Food Processing and Technology of Guru Jambheshwar University, Hisar. She emphasised the need for diversification of production and processing of food. There was tremendous scope to rejuvenate the traditional sector of grains and oil milling. She said that the government was committed to provide a massive thrust to food processing.

Dr. Sharma lamented that despite India being the largest producer of fruits and second largest producer of vegetables only 1% of its produce was being processed and exported She said that the techniques of Biotechnology and genetic engineering have to be applied for the production of better quality of food and also for preservation and pakaging of food.

Dr. K.L. Johar, Vice-Chancellor of the University said that India had unique geographical situation that provided ideal advantage of being at the centre of most prosperous economies of the Eastern world. He said that Haryana had 210 food processing industries and there was scope to increase the numbers which would result in creation of large number of jobs in rural areas.

Dr. Johar informed that the university has started a postgraduate course in Biotechnology from the current session which would help in exploring new areas in food processing and preservation.

Dr. S.S. Arya an internationally acclaimed food scientist and Director, Defence Food Research Laboratory, Mysore, in his keynote address said that the Indian food market is estimated to be of the order of Rs. 175,000/- crores. He said that all over the world, Biotechnology is perceived as the panacea for solving the world food problems and intensive efforts are going on to develop crops which are resistant to disease and insects, which are drought resistant and which are high yielding. Dr. Arya also emphasised that scientists and industrialists have a major responsibility to ensure that new products and process technologies developed by them meet the safety norms.

More than 40 participants from Panjab, UP, HP, Chandigarh, MP, Mumbai and Saudi Arabia attended the seminar.

Germany for Greater S & T Tie-up

Germany favours making scientific and technological cooperation a "central pillar" of Agenda 2000, a political project that is to define Indo-German relations for the year 2000 and beyond, according to Mr. Karsten Brenner, Deputy Director-General for European and International Cooperation in the Federal Ministry of Education, Science, Research and Technology, Germany.

"There are already clear areas of priority in our cooperation — bio-technology and genetic engineering, medical and health research, new materials, information technology and software development", Mr. Brenner said.

Delivering the seventh Bose-Einstein Lecture at the Indian Institute of Technology (IIT) Chennai, Mr. Brenner said a particular area of focus was space technologies and their joint applications through close cooperation between the German Centre for Aeronautical and Space Research and the Indian Space Research Organisation (ISRO).

Mr Brenner, who earlier attended the second meeting of the Indo-German Committee on Science and Technology at Ootacamund, said both sides agreed that enterprises, including SMEs (small and medium enterprises) with research potential or interest should be more actively involved in joint research projects and that projects should be more oriented towards industrial needs and economic innovation.

"If we manage to make stepwise progress in this respect, we shall certainly help our two countries along the way to successful economic development and a better employment situation — a common concern for India and Germany", he said.

The mobility of students and young researchers to and from

Germany was one of Germany's outstanding priorities. "We are working to make Germany again a place to study and to do research, as attractive as it has been in the past. We would appreciate if university partnerships are used to develop integrated study courses that would tremendously ease mobility in both directions".

Outlining Germany's priorities and national consensus in respect of the foremost tasks in education and research, Mr. Brenner said the current German policy was aimed at new focus on life sciences, biotechnology and microelectronics, apart from its traditional strengths in engineering, chemicals and automotive technology.

The country's endeavour was to make itself a more attractive and competitive destination for investment in the emerging world which was led by knowledge-based industries and the services sector

IGNOU Offers New Courses

The Indira Gandhi National Open University (IGNOU) plans to offer a Certificate Programme in Participatory Forest Management (PFM) and a Diploma for Youth Development Workers.

The Diploma programme for Youth in Development Works is already being offered in most other Commonwealth countries by the Commonwealth Youth Programme and it is likely to be introduced in India from the next academic year of IGNOU, which coincides with the calendar year. The programme to be conducted in collaboration with the youth organisations in the country will have study materials supplied by the Commonwealth Secretariat.

The Ministry of Human Resource Development has come forward to sponsor 50 women students in the first batch in commemoration of the golden jubilee of Independence.

"We propose to start admissions in July, but it depends on when the materials would be ready," says Dr. Soundravalli, Regional Director, IGNOU, Chennai, who heads the programme in the southern zone.

The PFM programme has been initiated to develop a sustainable system of forest management, roping in foresters and forest-dependent communities. Persons involved in forest resources management, forest protection committee members, and those working with the NGOs and industrial establishments keen on environment and forest development projects are the target groups.

The eligibility criteria for entrance is a plus two school certificate. Those with two years of work experience in natural resources management can also apply. The duration of the programme is six months but can be extended to a maximum of two years The programme consists of four courses each carrying four credits. The courses include Forest Resources and Use Practices, Foresters' Views of Forest Management, Forest Dwellers' Perceptions and Responses, and Implications of Joint Forest Management

Defence Labs-Varsities Interaction

India's defence laboratories will soon increase interaction with the universities, the Union Science and Technology Minister, Dr. Murli Manohar Joshi announced here today.

Addressing a tele-press conference linking Calcutta and Bangalore. Dr. Joshi said certain areas were common to the defence laboratories and research projects run by the universities and these warranted closer collaboration.

The Minister said he was in touch with the Adviser to the Defence Minister, Dr. A.P.J. Abdul Kalam, to further the cause of collaboration between universities and laboratories which come under the Defence Research and Development Organisation.

Besides, Dr. Joshi said he wanted research support for the small-scale industries by networking laboratories, entrepreneurs and even high schools and secondary schools.

An attempt would be made to get industry to fund research and development, he said, adding that proposals had already been made to the Planning Commission for additional funds to upgrade the same.

Dr. Joshi said he was concerned with the problem of "brain drain." He would try to see to it that the best possible working conditions were made available to the scientists so that they could render their services to the country.

Orientation Programme for Teachers

The Academic Staff College of Kurukshetra University, Kurukshetra recently organised the 28th orientation course in which 42 teachers from Kurukshetra University and other universities of Haryana and its affiliated colleges partici-

(Contd. on page 20)

Human Developmen .RC Countries — 2

Daily Newspapers : Number and Circulation 1980-1992

Country	*Number*				*Total Circulation (in thousands)*				*Circulation Per 100 people*			
	1980	*1985*	*1990*	*1992*	*1980*	*1985*	*1990*	*1992*	*1980*	*1985*	*1990*	*1992*
Bangladesh	44	60	52	51	274	591	700	710	0.3	0.6	0.6	06
India	1,173	1,802	2,281	2,300	14,531	19,804	26,000	27,500	2 1	2 6	3.1	31
Maldives	2	2	2	2	1	2	3	4 5	0 6	0 8	1.2	18
Nepal	28	28	28	25	120	130	150	140	0 8	0.8	0.8	07
Pakistan	106	118	318	274	1,022	1,149	1,826	809	1 2	1 1	1 5	06
Sri Lanka	21	17	18	10	450	390	550	1,033	3 0	2 4	3 2	5

Radio Broadcasting : Number of Receivers, and Density 1970-1993

Country	*Estimated number of receivers ('000)*					*Receivers per 100 people*				
	1970	*1980*	*1985*	*1990*	*1993*	*1970*	*1980*	*1985*	*1990*	*1993*
Bangladesh	500	1,500	4,000	4,855	5,360	0 8	1 7	4 1	4 5	47
Bhutan	3	7	18	24	27	0.3	0 6	1 3	1 6	1
India	11,747	26,000	50,000	67,000	72,000	2 1	3 8	6 5	7 9	[illegible]
Maldives	1	7	19	25	28	1 1	4.4	10 3	11 6	11
Nepal	55	300	450	650	720	0 5	2 0	2 7	3 4	3
Pakistan	3,000	5,500	8,500	10,650	11,660	4 6	6 4	8 3	8 7	9
Sri Lanka	640	1,454	2,551	3,400	3,600	5 1	9 8	15 8	19 7	[illegible]

Television Broadcasting : Number of Receivers, and Density 1970-1993

Country	*Estimated number of receivers ('000)*					*Receivers per 100 people*				
	1970	*1980*	*1985*	*1990*	*1995*	*1970*	*1980*	*1985*	*1990*	*1995*
Bangladesh	8	80	261	525	850	01	09	.26	49	[illegible]
India	28	3,000	10,000	27,000	57,000	01	44	1.3	3 2	61
Maldives	—	1	3	5	10	—	0.7	1 7	2 4	4
Nepal	—	—	20	35	60	—	—	12	18	[illegible]
Pakistan	99	938	1,304	1,989	2,800	15	1 1	1 3	1.6	22
Sri Lanka	—	35	450	600	1,200	—	2 4	2 8	3 5	66
World					1,288,478					223
Asia					578,323					172

Note — Sri Lanka started TV transmission in 1979; Nepal in 1985 (*Asian Communication Handbook*, 1993)

Source Media Asia — an Asian Mass Communication Quarterly 24(4), 1997 (Published by the Asia Media, Information and Communication Centre, Singapore)

Television Penetration Rate, and Projections for Year 2000

Country	*Total main telephone lines ('000) 1995*	*No per 100 people 1995*	*Projected telephone lines ('000) 2000*	*Projected No per 100 people 2000*	*Estimated investment 1996-2000 US$ (mil)*	*Estimated per year investment US$ (mil)*
Bangladesh	287	0 24	340	0 26	80	16
Bhutan	5	0 62	15	0 73	14	3
India	11,978	1 29	28,272	2 78	24,441	4,888
Maldives	14	5.67	31	11 13	25	5
Nepal	77	0 36	146	0 61	103	21
Pakistan	2,127	1 64	5,364	3 62	4,856	971
Sri Lanka	294	1 11	344	1 81	209	42
World	692,101	12.14	1,107,094	18.14	623,021	124,604
Asia	182,454	5.38	459,954	12.66	416,379	83,276

Note — Projections are based on the last six years' average growth rate in main telephone lines Estimated investment based on US $ 1,500 per main line

Cellular, Paging, Telex, and International Telephone Traffic

Country	*Cellular telephone subscribers*	*Cellular telephones per 100 people*	*Radio paging subscribers*	*Radio paging per 100 people*	*Telex subscribers*	*International outgoing tel traffic (minutes per person) 1995*
Bangladesh	4,000	—	3,000	—	2,800	0 2
Bhutan	—	—	—	—	100	0.5
India	135,600	0 01	221,000	0 02	49,063	0 3
Maldives	—	—	900	0 37	130	12.6
Nepal	—	—	—	—	500	0 6
Pakistan	43,000	0 03	5,700	—	7,060	0 5
Sri Lanka	60,600	0 33	10,100	0 12	1,500	1 5
World	86,667,700	1.56	56,829,300	1.01	741,200	11.0
Asia	21,155,200	0.62	28,371,800	0.85	183,400	3.1

Note — Data are for the mid-'90s Where the sources showed discrepancies, the higher data for the latest year were selected

Indicators of Computerization : Penetration of PCs and Internet

Country	*Estimated personal computers*		*Internet*			
	Total ('000) 1995	*No per 100 people 1995*	*Total No of hosts 1995*	*Hosts per million people 1995*	*Total estimated users 1995*	*Users per million people 1995*
Bangladesh	—	—	—	—	—	—
Bhutan	—	—	—	—	—	—
India	1,200	0 13	788	0 85	10,000	10 76
Maldives	3	1 23	—	—	—	—
Nepal	—	—	19	0 87	185	8 44
Pakistan	155	0 12	17	0 13	160	1 23
Sri Lanka	20	0 11	6	0 33	60	3 27
World	205,081	4.23	9,474,065	1,661.89	23,746,487	4,833.77
Asia	36,336	1.23	412,508	121.79	2,290,318	759.02

Note — Zero or a quantity less than half the unit shown   Data not available

(Concluded)

(Contd. from page 17)

pated. A delegation led by Prof. M. Khairullaev, Director, Institute of Oriental Studies Academy of Sciences, Uzbekistan, that visited the Academic Staff College, addressed the teacher-participants of the course. The other members of the delegation included Prof. Azad Shamatov, Chief of the Department of Indian Philology, Tashkent Institute of Oriental Studies, Prof. Timur Giyasov, Head of Oriental History, Tashkent Institute of Oriental Studies and Mr. Khamir Djabbarov, First Secretary, Uzbekistan Embassy, New Delhi.

Prof. Shamatov presented a paper on "Process of Historical Development of Linguistic Links between Uzbekistan and India". Expressing his views on linguistic tie up, he said that lot of research had been done on linguistic commonness since Islamic period but no work was available before Islamic period. He felt the need to fill the void in this direction. Projecting the common words in both the languages, he said there were many words which had come to stay with Indian languages and with time had undergone change but on the other hand, many words adopted by Indian languages had not lost their identity, for instance, Keema, Kabab, Korma are Russian gift to Indian languages likewise Shatranj is Indian gift to Russia which is derived from Sanskrit word Chaturang.

Prof. Giyasov spoke on "Economic Scientific Cultural ties between Uzbekistan and India". He informed that at present there were 44 joint ventures in Uzbekistan with India. India exports electric motors, surgical equipments, eye lenses, batteries, carpets, textiles, coffee, tobbacco, sweets, garments, toys and various other consumer items and also imports many industrial and consumer items. There are various cultural and students exchange programmes between the two countries.

The Director of Academic Staff College, Prof. D.S. Yadav, highlighted the age-old linguistic, cultural and economic ties between India and Uzbekistan.

Management of Rural Industries

The Department of Rural Industries and Management of the Gandhigram Rural Institute proposes to organise a UGC sponsored Refresher Course in "Rural Industries and Management" for college and university teachers from 23rd July to 12th August 1998. The course is designed to strengthen the skills and expertise of teachers by enriching their knowledge in Rural Industries and Management. It will enable the teachers to discuss the managerial issues and problems in undertaking industrial research.

Teachers in Economics, Commerce, Business Administration, Management Studies and Rural Development with five years of teaching experience at lecturer level are eligible for this course. The last date for applying for this course is 20th June, 1998.

Further details may be obtained from Dr M. Soundarapandian, Reader in Rural Industries and Management, Gandhigram Rural Institute, Gandhigram-624 302, Tamil Nadu.

Managing Physical Education & Sports

An International Congress on Management of Physical Education and Sports (ICMPES '98) will be held on October 2-6, 1998 at the Lakshmibai National Institute of Physical Education (Deemed University), Gwalior. The theme of the Congress is Management of Physical Education and Sports. The sub-topics proposed to be discussed include Management Theories applied to Physical Education and Sports; Economic and Social Environment for Management in Contemporary Society; Strategic Management in Physical Education and Sports; Community and Sports Services; World Peace and Physical Education and Sports; Pyschological Aspects of Management in Physical Education and Sports; Human Resource Management in Sports Sponsorship; Role of Physical Education and Sports in Peaceful Co-existence; and management of Physical Education Institutions.

Further details may be had from Dr. Jasraj Singh, Org. Secretary, ICMPES '98, Lakshmibai National Institute of Physical Education, Gwalior. Fax 091(0751) 341951, E-mail jasraj@gwr1. vsnl.net.in

Computer Aided Surgery

The Indian Association of Computer Assisted Surgery (IACAS) in association with the IIT, Chennai, is reported to have developed a software for various applications in computer aided surgery.

Dr. S Isaac Newton Rajkumar, the founder president of IACAS, said the organisation, a national-level professional body comprising doctors, computer professionals and technocrats, had joined hands with the IIT, Chennai, to impart training to surgeons and computer professionals in this field of frontier technology.

The emerging trends in this specialised field were discussed at a three-day international conference held at the IIT, Chennai recently. The introduction of computers in surgical procedures and how far they could be cost effective to Indian standards in view of high capital investment also formed part of the deliberations of the conference.

Student Counselling on AIR

The Indira Gandhi National Open University plans to launch a live phone-in programme 'IGNOU Calling' to facilitate better interaction with students. Initially to be broadcast only from All India Radio, Bhopal, it will be an attempt to use radio for student counselling

The programme will be on air on the second and fourth Sunday of every month for one hour (10-30 a.m. to 11-30 a.m.) for three months initially. The second Sunday time slot will be earmarked for bachelors courses while management/commerce course will be scheduled for the 4th Sunday. There will be an attempt to keep the content broad based to benefit students of classes X, XI and XII also. The programme will give students a chance to discuss the subject as in a real on-air class in Hindi. Students will also get general information about the university as well as in specific areas related to the course structure and evaluation. Besides, the counsellors, subject experts and students may be invited to participate. After the initial brief on the topic, the question-answer session wil be held.

NACLIN 98

The Delhi Library Network proposes to organise a National Annual Convention on Library and Information Networking (NACLIN 98) on November 16-18, 1998 at New Delhi.

The objective of the convention is to disseminate the latest know-how on various subjects and arrange tutorials for library and information professionals who want to gain practical knowledge in Resource Sharing, Networking Software, Multimedia Applications, Communication Tools, Bibliographic Standards, Cataloguing, Union Catalogues and Databases, Language Databases, Accessing Library Resources on the INTERNET, and Web Technology.

The tutorials which will be held on (1) Bibliographic Formats like MARC, CCF; AACR 2; Creation and Management of Library Web Sites, Creating Databases in Indian Languages; and Library Resources on the INTERNET.

Further details may be had from Mrs. Vijaya Murthy, Secretary, Delhi Library Network, 40, Max Mueller Marg, Lodi Estate, New Delhi-110 003, Fax 011-4627751, E-mail: vmurthy@ delnet.ren.nic.in

Technical Paper Presentation Contest

A Technical Paper Presentation contest was recently organized by TIET, Student Chapter of IEE (Institution of Electrical Engineering, London) at Thapar Institute of Engineering & Technology, Patiala. The contest proved to be a very stimulating and exciting exercise for the academic community. Shri V.P. Chandan, Member, Telecommunication, Railway Board who was the chief guest, gave a very informative talk on the role of Telecommunications in Railways. Dr. M.P. Kapoor, Director, TIET presided over the function and filled the participants with enthusiasm and vigour.

42 teams from Northern region of the country and 10 from the institute participated in the contest. The papers were presented in the areas of Electronics & Communication, Mechanical, Civil, Computers, Chemical technology, Management, Science Technology & Society. The papers were of high quality reflecting the up-to-date knowledge of the student community. Saraf Electrical Pvt. Ltd of Rampura Phul exhibted their various products like CTs, PTs, Energy meters, Distribution transformers, Panel meters etc

Dr. M.P. Kapoor, Director, TIET, Patiala gave away prizes and certificates at the valedictory function and released the souvenir containing abstracts of all the papers presented.

Dr. Vimla Bhanot, Student Advisor, IEE Student Chapter, TIET coordinated the contest.

Programme on Empowerment of Women

Institute of Applied Manpower Research, New Delhi proposes to organise Non-Residential Training Programme on Empowerment of Women on July 27-31, 1998 at New Delhi.

The objectives of the programme are as follows :

i) To make them aware about the concept, objective and scope of empowerment of women; ii) To create an understanding about Gender Equality and Empowerment; iii) To aquaint the participants about the importance of Education and Training in Empowering women; iv) To expose participants about the role of media in empowering women; v) To increase an awareness about the Human Rights legistative aspects pertaining to empowerment of women; vi) To create an understanding about socio-religious aspects of empowerment of women; vii) To acquaint the participants about measures for prevention, control of violence, abuses and exploitation of women; viii) To expose participants about the hurdles in the process of empowering women; and ix) to make them aware about Policies and Programmes pertaining to empowerment of women.

The programme is primarily meant for the Officers of the Central and State Governments and Administrations of the Union Territories and District level functionaries dealing with gender issues, development planning, employment promotion and poverty alleviation and women development programmes. The programme will also be useful for NGOs and women's organisation.

The contents of the programme include : Status and role of Indian women, Concept, objective and scope of empowerment of women, Gender equality and empowerment, Importance of education and training in empowering the women, Media and empowerment of women, Role of NGOs in empowerment of women, Human rights, legislative aspects pertaining to empowerment of women, Socio-religious aspects of empowerment of women, Measures for prevention, control of violence and exploitation of women, Obstacles in the empowerment process, and Policies and programmes pertaining to empowerment of women.

Further details may be had from Head (Training), Institute of Applied Manpower Research, Indraprastha Estate, (Opp. Indira Gandhi Indoor Stadium) Mahatma Gandhi Marg, (Ring Road), New Delhi-110 002.

Marketing Lib & Inf Products & Services

A Management Development Programme (MDP) on Marketing of Library & Information Products & Services (MLIPS) was recently conducted by the Indian Institute of Management, Lucknow (IIML). 12 senior level Library and Information Managers (LIMs) from all over the country attended the programme.

The training package developed by Dr. Roshan Raina and Prof. Prem C. Purwar, Programme Directors, included discussion sessions on : i. Conceptual Framework of Marketing; ii. Marketing Mix; iii. Marketing in Library & Information Context; iv. Marketing Cases in the Service Sector; and v. Marketing Orientation, with eminent subject experts, sharing experience and video films on the programme theme. Learning through cases was a unique feature of the programme package

Participants provided the feedback on the programme, with the help of a structured questionnaire designed for the purpose as well as through a report presented in the valedictory function.

News from Agricultural Universities

Nematologists Meet at Coimbatore

Dr. A. Abdul Kareem, Vice-Chancellor, Tamil Nadu Agricultural University (TNAU), inaugurated a three-day third international symposium of Afro-Asian Society of Nematologists at Coimbatore recently. He said that farmers around the globe suffered annual losses to the tune of US$ 77 billions, owing to attacks by nematodes upon food crops. According to a TNAU study, Tamil Nadu suffered an annual loss of Rs. 2000 millions, owing to nematode infestation in horticultural crops, pulses and cotton alone. To remedy the situation, farmers should be educated about the effect of nematodes upon their crops, and offered effective measures to combat the pests.

Moreover, nematology should be taught as a separate subject to students of agriculture, horticulture and forestry. Until now, farm scientists had been concentrating their studies upon nematodes affecting high-value crops and staple food crops had been neglected. Pulses' production in the country had remained stagnant for the past decade, and nematode pests were one of the factors responsible for this.

Bio-technologists could develop nematode-resistant crop varieties for widespread use, and help to formulate effective, integrated nematode management practices. With chemical methods of controlling nematodes posing environmental hazards, the accent should be on bio-control agents and specific methods such as soil solarization.

Dr. O.P. Dubey of Indian Council of Agricultural Research (ICAR), said that farmers wanted low-cost technology with least input, for controlling nematodes.

He suggested that all State agricultural universities start a division of nematology and offer training programmes. For any scheme that was feasible, the ICAR would extend financial support

CCSHAU Krishi Vigyan Kendra

Shri Mahabir Prasad, Governor of Haryana, urged the farm scientists and policy planners to address themselves to the twin problems of water logging and soil salinity that were assuming serious proportions in the agrarian states of Punjab and Haryana. He said flaring up of a weed, *Phalaris minor* menace in wheat crop also seeks immediate attention of the agriculture scientists. He was speaking after inaugurating the Krishi Vigyan Kendra of CCS Haryana Agricultural University at village Devigarh. Shri Prasad expressed need to develop and disseminate new farm techniques to achieve food production targets. He said the country's population in the next two decades was expected to be 140 crores and the nation would need to produce about 300 million tonnes of foodgrains which is approximately 100 million tonnes more than the present production level.

Increasing urbanization and industrialization had also been mounting pressure on cultivable land and the agri-scientists would have to evolve such technology as could increase the productivity in the agriculture sector. He also urged the farmers to bring diversification in agriculture for harnessing more profits.

He said the improved technology and about 130 varieties of different crops, developed by the university had proved instrumental in putting Haryana among front ranking states in foodgrain production in the country

Presiding over the function, Prof. J.B. Chowdhury, Vice-Chancellor said that besides imparting agricultural education, the university was endeavouring to take useful technology to the farmers He revealed that Krishi Vigyan and Gyan Kendras were being established in almost all districts of the state to facilitate flow of information to the farmers. Also trainings were being conducted to educate farm women and unemployed youths about income generating activities, he added

Dr. R. Yamdagni, Director Extension Education, in his welcome address, said that apart from conducting location specific research, the seed producton work would also be carried out in this kendra. He said training for unemployed youths would also constitute major activity of the kendra.

Drip Fertigation Study

Tomato cultivators using drip irrigation will be able to reduce fertilizer and water requirements, increase production and cut labour costs, through a three-year study on drip fertigation, to be done by the Tamil Nadu Agricultural University (TNAU).

Dr A. Abdul Kareem, Vice-Chancellor, TNAU, said that the Indian Council of Agricultural Research (ICAR) had sanctioned Rs. 2 96 lakhs for the scheme, to evaluate the 'drip fertigation' system with liquid and water-soluble fertilizers.

Through the study, the university would evaluate the nutrient efficiency, estimate the savings in fertilizer costs, observe the water use efficiency, document productivity increase and assess quality improvement.

This will be compared with the agricultural inputs for growing tomato, using conventional irrigation and fertilization techniques. As a result of this study, it will be possible for the tomato farmers to accurately control water and nutrient requirements when using drip irrigation systems.

News from UGC

Countrywide Classroom Programme

Between 25th and 31st May, 1998 the following schedule of telecast on higher education through INSAT-1D under the auspices of the University Grants Commission will be observed. The programmes are telecast on the Doordarshan's National Network from 7.15 to 8.00 a.m. every day except on Saturdays & Sundays. These programmes are also telecast on Doordarshan's National

Network from 6.00 to 7.00 a.m. four days a week i.e on Tuesdays, Thursdays, Saturdays and Sundays On DD2 University Video Lecture Courses will be shown at midnight between 0000-0030 hrs. and in the morning between 10-10.30 a.m. on Monday through Friday.

Hindi Programmes are being telecast on Mondays, Wednesdays & Fridays from 6.00 to 6.30 a.m.

25.5.98

"Company Law Quiz-2"
"Media, Market Reality and the Adolescent-2"
"Why Conserve Wild Animals?"

UVLC

"Labour and Industry"
"Lipids-1"

26.5.98

"Tennesse Williams : The Humane Dramatist-2 : The Glass Managerie Revisited"
"Theatre in Society-2 : Free Theatre"

UVLC

"Sanskritisation"
"Functions of Several Variables-2"

27.5.98

"Polygons and Polyhedra"
"The Leather Story-1 On the Edge of Time"
"Algorithms"
"Integral Pedagogy Process-5 Romanticism Revisited — The Age of Revolution"

UVLC

"Flower Arrangement"
"Map Reading : Physical"

28.5.98

"Magnetic Material"
"Preserving the Past-2"
"Sight-Amblyopia"
"Question Time-63"
"The Young Ones — Let them be them"
"The Glorious legacy of Marathas of Thanjavur-3"
"Browsing the Frontiers of Information Technology-2"
"Fuse & its Use"
"Manufacturing Medicine-2"

UVLC

"State System in India"
"Consumption Function and the Multiplier"

29.5.98

"Exploring Eden-Food for Plants"
"The Leather Story-3 : Time to Come"
"Silver Magic-2"
"The Samanthas : An Anthrop Vision"

UVLC

"Expression and Perception of Emotion"
"Time Series"

30.5.98

"Corrosion in Industries-1 Causes & Control"
"The Indian Tribes"
"History of Telecommunication — Television"
"The Green World"
"The Leather Story-4 Talking Time"
"Statistics : Investigating Correlation"
"Technology & Information Society"
"Plant Life Under Extreme Environment-1"

UVLC

No Telecast

31.5.98

"The Butterfly Effect"
"Palatial Puzzles : Excavation at Lalkot"
"Exploring Eden : Biodiversity"
"Water — The Silver Link of Life"
"Browning the Pied Piper of Wimpole Street-2"
"Science Behind Miracles-2"
"Sun and Salt"
"Citizens Identity Passport"

UVLC

No Telecast

Hindi Telecast

प्रात: 6.00 से 6.30 बजे तक

25.5.98

"आलमपुर-2"

26.5.98

"बोरूँडा ज्ञान प्रथा"

27.5.98

"कुक्कुट पालन-2"

28.5.98

"युगदृष्ठा सुमन"

29.5.98

"हस्तशिल्प : सौंदर्यगाथा"

JAWAHARLAL NEHRU UNIVERSITY

DIRECT ADMISSION TO PH.D. PROGRAMME 1998-99

The University admits a limited number of candidates directly to Ph D. programme in various areas of research in the (1) **School of International Studies, (2) School of Social Sciences, (3) School of Languages, (4) School of Computer & Systems Sciences, (5) School of Physical Sciences, and (6) Centre for Biotechnology.** Only those who have either obtained an M Phil degree or have research experience in recognised Universities/Research Institutions or research publications comparable to M.Phil standard in relevant discipline are eligible to apply for direct Admission to Ph D Programme

Application forms together with detailed Instructions Booklet can be had either personally from the office of Dy. Registrar (Admissions) on cash payment of Rs 60/- per set from 2.30 to 5 00 p m. on all working days (Monday to Friday) or by sending a request alongwith Bank Draft/Banker's Cheque/Pay Order for Rs. 80/- payable to Jawaharlal Nehru University, New Delhi, alongwith a self-addressed unstamped envelope of 28x20 cms size with the words "Direct Admission to Ph.D Programme" inscribed on it

Issue of Forms : From May 6 to June 10, 1998.
Last date for receipt of Completed Forms : June 12, 1998.

BOOK REVIEW

Stimulating Reading

R.D. Pathak*

Subhash Sharma. Management in New Age : Western Windows Eastern Doors. New Delhi, New Age International (P) Ltd, 1996. Pp. 232. Rs. 160/-.

'Human Resource Development' despite becoming a celebrated word in the dictionary of management is coming under the close scrutiny of those who are feeling genuinely concerned about human beings as human beings rather than a mere resource alongside other resources. For the first time, this issue was raised academically in the writing of Pathak (1987) and Chakraborty (1989) who coined the word *Human Response Development* in place of Human Resource Development so as to give due and distinctive place to human beings as human beings in the process of all development taking place in the society

The book under review also centres around this theme of looking at human beings in a distinctively unique way where their response as human beings is what matters rather than treating them as one of the resources on which you have to work and which need tobe exploited to your fullest advantage in the same way as with any other resource. The 'Human Resource Accounting' is a manifestation of this tendency to treat human beings alongwith other resources in a similar manner by putting them in balance sheet in monetary terms in comparison to other resources. It is thus widely prevalent tendency of equating human beings with other resources since the era of scientific management which Professor Rogers in his foreword to this book wants to caution about and considers the present book as "daring and thought-provoking" which combines Indian thought with more conventional western theories of social science. It is perhaps, for this reason that Sharma has also chosen to term Human Resource Development (HRD) as Human Quality Development (HQD) to give the underlying message that ultimately management like democracy is of the people, by the people and for the people i.e. it is only people who ultimately matter

One has to read this book to experience the confluence of Indian thoughts and acronyms on Human Response Development (HRD) in contrast to western literature on HRD. A spirit of questioning as well as of transcending the boundaries of existing paradigms is there in all the chapters of this book. Ideas have been divided into broad themes such as Routes to reality, Deconstruction and reconstruction of management theories, The question of motivation, Human and Social Development (HSD) in place of Human Resource Development (HRD), Holistic approaches to management, Human Quality Development (HQD) and Total Quality of Mind (TQM) in place of Total Quality Management (TQM). In the New Age, one minute manager looking for quick fix solutions is going to gain a lot by just going through the Chapter 25 of this book titled "Management Wisdom : The Common Man's Management Theories" where the pearls of Indian wisdom on Management have been laid for the Indian manager to lay his hands on, feel it, experience it, and may hang around as a necklace to draw continued sustenance for his actions.

Ironically, it is chapter 25 which is also a *bete noir* for Sharma as an author of this book because when chapter 25 is read in conjunction with other chapters, his vulnerability while focusing the target readers of this book comes to the fore i.e. the book is not properly developed either for researchers or practitioners in management or a general reader.

The theories in various chapters while presenting interesting and thought provoking insights e.g. basket of Human Needs (Necessities, Entitlements, Empowerment, Desire & Spirituality) in place of hierarchy of Human Needs and moving to inspirational motivation beyond the self-actualisation stage of Maslow, do not address them properly either to the practitioner or to the researcher. For example, if the attempt was towards researchers then certainly it has been unfair not to deal with the later works of Maslow where he talks of meta-needs and B-values (of truth, love,

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**Professor & Dean of Faculty of Management Studies & Head of School of Defence & Management Studies & Head of Distance Education, Devi Ahilya University, Indore-452 001.*

justice etc) going beyond the level of self-actualisation (*Pathak* 1983). Also in Chapter 11 — New Taxonomies : Towards a touch of feminity — while very pertinently questioning the management and social theories that have been developed within the individualistic masculine paradigm, the author stresses the need to have management theories based on the yin trinity of *Laxmi* (wealth), *Saraswati* (knowledge) and *Durga* (power) and uses the metaphor of 'Mother' to describe feminine collectivist oriented manager but ignores the existing literature on 'Materialistic Style of Management' (e.g. *Rao*, 1983)

In fact the author could now contemplate bringing out this book in two parts — the one addressed to researchers in management wherein the Indian theories & insights on management are presented in a more organised way drawing upon the well researched critique of present literature on management (both of western and Indian origin) and then suggesting alternative models and propositions for researchers to further test and contribute to the field. The other part of the book could be developed for management practitioners by elaborating various themes in Chapter 25 into elaborate action plans and including relevant short cases and insights from Indian literature to further illustrate those points.

This book does make a timely contribution to the management literature by upgrading and bringing on a higher philosophical plane, the ideas and views that are often discussed but hardly researched. For researchers, the book is full of exciting agenda to work upon whereas for practitioners and a reader interested in management, the book is full of interesting and thought provoking insights and acronyms e.g. INDIA (Infinity & Diversity in Absolute), LEFT (Liberty, Equality, Fraternity & Transcendence), LIFE (Liberation from Exploitation), LIFO (Liberation from Oppression), MIND (Manifestation of Infinity & Diversity), MBA (Manas, Buddhi, Ahamkaar), NEEDS (Necessities, Entitlement, Empowerments, Desires & Self-realisation), SHE (Spiritualistic, Humanistic, Existential), SPOT (Space & Pace of Opportunities & Threats), VEDA (Vision, Enlightenment, Devotion & Action) YOGA (Yearning for Oneness & Gaining Advantage). WEPT (Wealth, Ethics, Pleasure & Transcendence). To this list of various interesting acronyms, I may add another one i.e. GMS (*Gagar mein Sagar*) which has been the effort of the author while writing this book but perhaps need to be done again keeping in view the distinctly different target audiences of management researchers & practitioners. However, many chapters of this book are likely to be a very stimulating as well as inspiring and thoughtful reading for readers depending upon their background. The author does deserve congratulations for this excellent and timely attempt of looking at management in the new millennium through the western windows while standing firmly on the eastern doors.

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A Welcome Addition

Kiran Sandhu*

Yoginder Prasad Sharma. Physical Education and Research Methodology, New Delhi, Reliance Publishing House, 1997. Pp. xv+349 Rs. 375.

For the past thirty years I have enjoyed manyfolds of life related to sports and physical education. I have played sports; organised, managed and conducted sports, designed and redesigned physical education programmes and curricula; taught introductory and advanced courses in physical education and sports; conducted and guided research in physical education and at graduate and post-graduate levels sport. The direct reflection of my multifarious exposure to practice, performance, practical field work and theoretical, academic and research side of sport is that Physical Education today has changed from a mere physical training experience on sports skill to an education medium concerned with both personal development and physical performance. Resultantly, it has became an area of reflective activity. Hence, the need to not only to constantly experience it, but also to understand and justify it.

In the given backdrop, the book

**Faculty Member, Indira Gandhi Institute of Physical Education and Sport Sciences, Vikaspuri, New Delhi.*

Physical Education and Research Methodology is a welcome effort by the author. It is targetted at students taking course in research at master's as well as doctoral levels. Since most of these students lack previous course work or experience in research, they are more like research consumers than practitioners. The book very well caters to the need of the audience while presenting concepts and language of research or statistics etc.

The book is neatly divided into thirteen fundamental chapters on research methodology in physical education. It attempts to provide conceptual clarity, providing the background for understanding various stages of the process of research in physical education. It identifies the need and areas of research in physical education, which is a much needed novelty added to a book an research in physical education. It may provide a clue to prospective sports leaders to choose an area for research.

First two chapters deal with developing on understanding of research and its need. Chapter three deals with identification of problem and its scope in physical education and sport Chapter four presents methodology and resources for review of research material. Chapter five gives structural ingredients of research proposed. Chapter six offers tools for data collection. It also delves in construction and selection of check list, tests, score cards, and conduct of interview and observations Chapter seven brings up matters related with sampling. Chapters 8, 9 & 10 put forth various methods of research e.g. descriptive, developmental, historical, and experimental. Chapter eleven deals with analysis and interpretation of data. Chapters 12 & 13 present material on writing of research report and statistical methods.

The author advocates a rational process to be adopted to achieve any meaningful results in research in sports and physical education. A heavy theoretical emphasis has been placed on making research decisions and on available research alternatives. At this juncture, a contradiction appears in the text. In an effort to keep it as simple as possible, at times the text appears to be a cook book The book lacks the thrust on the significant concern for ethics, to encourage the researcher to do the research in accordance with ethical principles. Limits and responsibilities of the researcher in sport and physical education is not dealt with, although the sport research is centred around people, the living beings.

The preface to the book also mentions the teacher educators in physical education as another audience for the book. This part of audience is faced with the responsibility to evaluate programmes and study problems through research with a pressure of reality. To meet such a need, the book would have been of each stage of research had been attempted for implementation in real setting, or suggested for implementation in real sport and physical education programmes.

Further more, the reader would have got better value of the book, had it presented a survey on trends, issues and status of sport research in India and some good model studies for reference together with further readings for the benefit of the potential researchers, students, and teacher educators. It could have been a step taken to reduce the gap between sport research on shelves and implication of research in sport settings to improve the quality of sport & physical education programmes. In sum, research and education is an ongoing process; the book, as it may be, is a welcome addition to the subject.

श्री अमन सिंह आत्रेय पुरस्कार योजना 1999

भारतवर्ष के समस्त विश्वविद्यालयों द्वारा हिन्दी साहित्य पर पी.एच.डी. उपाधि के लिये स्वीकृत एवम् प्रकाशित शोध-प्रबंध अमन सिंह आत्रेय पुरस्कार के लिये आमंत्रित हैं।

अनिवार्यताएँ : 1. प्रकाशन अवधि 1996 से 1998 तक। 2. प्रकाशन तिथि सम्बन्धी प्रकाशक का प्रमाण-पत्र। 3. शोध प्रबन्ध भेजने की अन्तिम तिथि 15 अगस्त, 1998 है। निश्चित तिथि के पश्चात् प्राप्त ग्रन्थ पुरस्कार योजना में सम्मिलित नहीं किये जा सकेंगे। 4. शोध ग्रन्थ की चार प्रतियाँ प्रेषित करें। बाद में यह ग्रन्थ संस्थान की अमूल्य निधि मानी जायेंगी। 5. पुरस्कार राशि केवल ग्यारह हजार रुपये (रु. 11,000/- मात्र) है। 6. निर्णायक मण्डल का निर्णय अन्तिम और सर्वमान्य होगा। 7. पुरस्कार सम्मान 5 जनवरी 1999 को प्रदान किया जायेगा। **डॉ. कमला आत्रेय**, अध्यक्ष, श्री अमन सिंह आत्रेय हिन्दी विकास संस्थान, 61-ए, साकेत, मेरठ-250 003 ।

THESES OF THE MONTH

A list of doctoral theses accepted by Indian Universities

AGRICULTURAL & VETERINARY SCIENCES

Agriculture Botany

1. Patil, Bhaskar Rustamrao **Genetic diversity and phenotypic stability studies in safflower (carthamus tinctorius L.)** Dr Panjabrao (Dr D B Dhumale) Department of Botany, Dr Panjabrao Deshmukh Krishi Vidyapeeth, Akola.

Animal Biotechnology

1 Aravindakshan, T V. **Genome analysis in cattle and buffaloes by RFLP and RAPD techniques.** TANUVAS (Dr A Mahalinga Nainar) Department of Animal Biotechnology, Tamil Nadu Veterinary and Animal Sciences University, Chennai.

2 Venkatesha, M D **Molecular characterization of leptospiral serovars.** TANUVAS (Dr P Ramadass) Department of Animal Biotechnology, Tamil Nadu Veterinary and Animal Sciences University, Chennai.

Animal Genetics

1. Jawahar, K. Thilak Pon. **Sperm penetration bioassay with cryopreserved hamster oocytes.** TANUVAS. (Dr K S Raman) Department of Animal Genetics, Tamil Nadu Veterinary and Animal Sciences University, Chennai

2 Muralidharan, M R. **Hide qualities of native and cross-bred livestock.** TANUVAS (Dr S Shanmugasundaram), Tamil Nadu Veterinary and Animal Sciences University, Chennai

Fisheries

1 Manikandavelu, D **Biodiversity of coral reef fishery resources of tuticorin coastal waters.** TANUVAS (Dr K Venkataramanujam) Department of Fisheries, Tamil Nadu Veterinary and Animal Sciences University, Chennai

Soils

1 Gupta, Rajeev Kumar **Effect of dried biogas slurry and fym on nitrogen economy in rice-wheat sequence and their influence on minoralization in soils.** Punjab Agril Department of Soils, Panjab Agricultural University, Ludhiana

2. Singh, Surinder **Effect of level and depth of puddling on soil, water use and performance of crops in rice-wheat cropping system on a sandy loam soil.** Punjab Agril. Department of Soils, Punjab Agricultural University, Ludhiana.

Animal Surgery

1 K., Ramanujam **Evaluation of anaesthetic regimen for heart-lung by-pass in dogs.** TANUVAS (Dr N N Balasubramanian) Department of Surgery, Tamil Nadu Veterinary and Animal Sciences University, Chennai.

Wild Life

1. Silori, Chandrashekhar **Study of pressure and dependency of local people on the natural resources of Madumalai wild life sanctuary with a view to divising compatible management stratagies.** Saurashtra. (Dr B K Mishra) Department of Wild Life, Saurashtra University, Rajkot.

BIOLOGICAL SCIENCES

Botany

1. Agrawal, Vinod Kumar. **Studies on physiological analysis of growth, development and productivity in eleusine coracana (L.) gaertn.** Durgavati (Dr S K Hasija) Department of Botany, Rani Durgavati Vishwavidyalaya, Jabiapur

2 Hinglaja, Harsha Rajbhai. **Physiological studies on salt tolerance in prosopis juliflora (SW) DC.** Bhavnagar (Dr A J Joshi) Department of Life Sciences, Bhavnagar University, Bhavnagar.

3 Khajapur, A Ashok Kumar **Epidemiological investigations on fusarial disease complex in sorghum.** Gulbarga (Dr A H Rajasab) Department of Botany, Gulbarga University, Gulbarga

4 Prasad, Pramila. **Soil microbial biomass and activity in some tropical agrorcosystems.** Sambalpur (Dr N Behera) Department of Life Science, Sambalpur University, Burla.

5 Ramana,. R V **Tissue culture studies on milletes and cheekpea.** Kakatiya Department of Botany, Kakatiya University, Warangal

6 Sebastian, Julie **Studies on the chemical inter-relationships of cuscuta and its hosts.** Baroda. Department of Botany, The Maharaja Sayajirao University of Baroda, Vadodra

7. Sharma, Meena **Effect of some growth rotardants on physiology of fruit development in Cajanus cajan (L.) millsp** Punjab Agril Department of Botany, Punjab Agricultural University, Ludhiana

8 Singh, Nahakpam Randhir **Mutagenesis and induced variability in valvet bean (Mucuna pruriens (L.) DC var utilis)** Manipur (Dr M Rohini Kumar Singh) Department of Life Sciences, Manipur University, Imphal.

9 Vijay, Bhuwanesh **Investigation on compost mycroflora and improvement in agaricus bisporus (lange) singh.** Himachal Department of Botany, Himachal Pradesh University, Shimla

Zoology

1 Kazmi, Sarfrazul Islam **A taxonomic revision of the Indian copidosomatini (Hymenoptera · Chalcidoidea . Encyrtidae)** Aligarh. (Dr Mohammad Hayat) Department of Zoology, Aligarh Muslim University, Aligarh

2 Pathak, Sangita **Studies into the intrafloral ecology of anthophilous insects** Ghasidas (Dr K P Dwivedi) Department of Zoology, Guru Ghasidas University, Bilaspur.

3 Sahni, Geetanjli **Chromosomal studies in some Indian lepidoptera.** Kurukshetra Department of Zoology, Kuruskhetra University, Kurukshetra

4. Sharma, Neena **Biological and behavioural studies on golden WASP · VESPA auraria S and giant WASP, VSP mandcrina s.** Himachal Department of Zoology, Himacha Pradesh University, Shimla.

EARTH SYSTEM SCIENCES

Geology

1. Chavan, Anupama Balasaheb. **Geochemistry and mi eralogy of duricrusts from the eastern part of Mahadeo range Western Ghats, India.** Pune (Dr D N Patil) Academic staff c lege, University of Pune, Pune.

2. D, Ramakrishnan. **Calcretic and ferricreteic durisru**

of Thar desert : Their genesis, palaeoclimatic implications and geotechnical efficacy as pavement aggregates. Baroda. Department of Geology, The Maharaja Sayajirao University of Baroda, Vadodra

3. Govindaswamy, M. **Miner alogical and geo-chemical studies of aluminous laterites of Kumta plateau North Kanara District, Karnatak State India.** Karnatak. (Dr M Basavanna) Department of Geology, Karnatak University, Dharwad.

4 Khan, Arshad Zaman. **Provenance and petrofacies evolution of cretaceous sandstones in Saurashtra, Gujarat, India.** Aligarh (Prof Khursheed Akhtar) Department of Geology, Aligarh Muslim University, Aligarh

5 Malik, Javed Noormohamed **Late quaternary depositional history of Mahi river basin with special reference to neotectonism and palaeoclimates.** Baroda Department of Geology, The Maharaja Sayajiro University of Baroda, Vadodra

Geophysics

1 Mohanty, Priya Ranjan. **Seismic analysis for detection of coal seam discontinuities with special reference to Raniganj and Jharia coalfields.** ISM (Prof B B Bhattacharya and Dr S Phadke) Department of Applied Geophysics, Indian School of Mines, Dhanbad

ENGINEERING SCIENCES

1 Job, Kuriakose Aerankavil **Studies on elastomer blends with special reference to NBR/BUTYL, NR/BUTYL and NBR/EPDM blends.** Cochin (Dr Rani Joseph) Department of Polymer Science and Rubber Technology, Cochin University of Science and Technology, Kochi

Aeronautical Engineering

1 Ravi Sankar, K. **Development of experimental techniques and capability to analyse elasto-plastic problems.** Anna (Dr. P Baskaran) Department of Aeronautical Engineering, Anna University, Chennai

Biotechnology

1 Nampporthiri, Madhavan K **Studies on laglutamic acid production using brevibacterium SP** Cochin (Dr Ashok Pandey) Department of Biotechnology, Cohin University of Science and Technology, Kochi.

Electrical Engineering

1 Balagurunathan, T **Study on random access protocols and their improved through put-delay performance analysis for ultra high speed fiber optic networks.** Anna (Dr K P Ramakrishnan) Department of Electrical Engineering, Anna University, Chennai.

Electronics

1 Methew, Thomaskutty **Application of strip gratings for the reduction radar cross section of targets.** Cochin (Dr K G Nair) Department of Electronics, Cochin University of Science and Technology, Kochi

2. Sumangala, R. **Investigations on ultrasonic transducer array systems for NDE on underwater pipelines.** Cochin (Dr P R Saseendran Pillai) Department of Electronics, Cochin University, Kochi

Marine Sciences

1 Abdulla Bhava, K. **Geochemistry of interstitial waters and sediments of vembanad estuary, Kerala, India.** Cochin (Dr P Seralathan) Department of Marine Sciences, Cochin University of Science and Technology, Kochi.

Mechanical Engineering

1 Garg, Dixit **Relevance of jit purchasing in Indian industries.** Kurukshetra Department of Mechanical Engineering, Kurukshetra University, Kurukshetra

2 Jain, Akshaya Kumar **Application of few aspects of stochastic theory to optimal design of mechanical systems.** Ghasidas. (Dr S B L Beohar) Department of Mechnical Engineering, Guru Ghasidas University, Bilaspur

Mining Engineering

1 Singh, Manoj Kumar. **Simulation of environmental conditions in mine ventilation networks using linearised flow equations** ISM (Dr D C Panigrahi) Department of Mining Engineering, Indian School of Mines, Dhanbad

Rubber Technology

1 Jasmine, Maret **Influence of compounding and process variables on quality of condoms made from natural rubber latex** Cochin (Dr N M Mathew) Department of Rubber Technology, Cochin University, Kochi

2 Methew, Cyriac **Studies on a new vulcanization systems** Cochin (Dr A P Kuriakose) Department of Polymer Science & Rubber Technology, Cochin University, Kochi.

Science and Technology

1 Paulose, C Lizy **Effect of dietary proteins on growth, food conversion and digestive enzyme activity of juvenile macrobrachium rosenbergii.** Cochin (Dr Saleena Mathew) Department of Science and Technology, Cochin University, Kochi

MATHEMATICAL SCIENCES

Mathematics

1 Khan, Mohammad Firdosh **Numerical techniques in variational inequalities** Aligarh (Prof Abdul Hasan Siddiqi) Department of Mathematics, Aligarh Muslim University, Aligarh.

2 Mishra, Bimal Kumar **A study of some mathematical modellings in plant pathology.** Vinoba Bhave (Dr G P Sharan, Department of Mathematics, Vinoba Bhave University, Hazaribag.

3 Samuel, M S **Fuzzy measures and a theory of fuzzy daniel integrals.** Cochin (Dr T Thrivikraman) Department of Mathematics, Cochin University of Science and Technology, Kochi.

4 Vishwanath, Acharya Vinaykumar. **Cyclotomic numbers of order 21, 1 and odd prime.** Pune (Dr S A Katre) Department of Mathematics, University of Pune, Pune.

Statistics

1. Singh, Pritpal **Performance of mutual funds in India — An empirical analysis using different statistical models.** Punjab Agril Department of Statistics, Punjab Agricultural University, Ludhiana.

MEDICAL SCIENCES

1. Jindal, Vandana **Biochemical mechanisms of lead neurotoxicity in adult rats exposed to alcohol.** PGI. Department of Medical Education Cell, PGI, Chandigarh.

Experimental Medicine

1. Kaur, Harpreet. **Immunochemical and immunobiological studies on excretory-secretory products of axenic strain of giardia lamblia.** PGI Head, Department of Experimental Medicine and Biotechnology, PGI Chandigarh

Toxicology

1. Barathy, R. **Anthoniammal Jaya. Cloning and expersion of M.tb genes in non-pathogenic mycobacteria studies on the immunomodulatory response to expressed Tb proteins.** Jamia Hamdard. (Dr S Raisuddin), Department of Toxicology, Jamia Hamdard University, Hamdard Nagar, New Delhi

PHYSICAL SCIENCES

Chemistry

1. Behera, Yudhisthir. **Arsenate substitution in the solid slutions of zinc-calcium hydroxylapatites.** Sambalpur. (Dr D N Patel) Department of Chemistry, Sambalpur University, Burla.

2. Helaleh, Murad Izzat Hasan. **Detection and determination of some pharmaceutical drugs and their application in drug formulations using different analytical techniques.** Aligarh. (Prof S Z Qureshi) Department of Chemistry, Aligarh Muslim University, Aligarh

3. Mahajan, Meenakshi **Analytical methods for vitamins (spectrophotometric methods for determination of vitamin C.).** Kurukshetra Department of Chemistry, Kurukshetra University, Kurukshetra.

4 Pardeshi, Bharati Mohanlal. **Elemental analysis of some ayurvedic harbals and medicines from India using NAA and AAS techniques.** Pune (Dr N S Rajurkar, Department of Chemistry, University of Pune, Pune

5. Qasem Abu-Nameh, Eyad Samih Mohd. **Analysis of some important drugs in pharmaceutical preparations and biological fluids.** Aligarh (Dr Syed Ashfaq Nabi) Department of Chemistry, Aligarh Muslim University, Aligarh.

6 Rafiqi, Shafqat Hussain. **Physico-chemical studies on metal chelates of sulphur and nitrogen containing ligands.** Aligarh (Dr Sartaj Tabassum) Department of Chemistry, Aligarh Muslim University, Aligarh

7. Rao, Mandava Venkata Basavaswara **New synthetic strategies for heterocycles of biological interest.** NEHU. (Prof H Junjappa) Department of Chemistry, North-Eastern Hill University, Shillong

8 Sinha, Sukumar. **Charge transfer complexes of non-conventional donors and acceptors.** Aligarh. (Dr Syed Ashfaq Nabi) Department of Chemistry, Aligarh Muslim University, Aligarh

9 Sivakumar, T **Catalytic activities of rare earth transition metal oxides with A2B04 & AB03 structures and modified zeolites.** Anna Department of Chemistry, Anna University, Chennai.

10. Srivastava, Pankaj A. **Physico-chemical studies of biochemical systems.** Aligarh. (Prof Nural Islam) Department of Chemistry, Aligarh Muslim University, Aligarh.

11. Tirunahan, Pawan Kumar. **Studies directed towards the synthesis of brassinosteroids and organic transformations catalysed by zeolites.** Pune. (Dr B G Hazra) Department of Chemistry, University of Pune, Pune.

12 Udaipoure, Salil Kumar **Studies on the effect of micro nutrients like ZN, MN, MO and B on growth, yield of wheat plant and wheat proteins.** Ghasidas. (Dr L K Thetwar) Department of Chemistry, Guru Ghasidas University, Bilaspur.

13. Vivekanandan, G **Studies on catalytic transformations : transformations of - pinene, - pinene, 3-carene and camphene over vanadia titania (anatase) catalysts in the vapour phase.** Anna. Department of Chemistry, Anna University, Chennai.

14. Yadu, Anklekar Kiran. **Synthetic studies in nitrogen and oxygen hetrocycles of structural and biological interest.** Karnatak. (Dr M V Kulkarni) Department of Chemistry, Karnatak University, Dharwad.

Physics

1. Kapatkar, Suresh Baburao. **Electronic transport & optical properties of semiconductor heterostructures.** Aligarh (Dr S S Kubakaddi) Department of Physics, Karnatak University, Dharwad.

2 Rao, Pasumarti Surya Prakash. **Some studies on the depositions of atmospheric pollutants in different environments in India.** Pune. (Dr P C S Devara, Department of Physics, University of Pune, Pune.

3. Sudhakaran, A A **Application of the photoacoustic techniques for imaging and thermal characterization of solid samples.** Cochin University. (Dr Jacob Philip) Department of Instrumentation, Cochin University of Science and Technology, Kochi.

4 Vaishali, Shah **Ab initio density based molecular dynamics study of small clusters.** Pune. (Dr D G Kanhere) Department of Physics, University of Pune, Pune

5 Verma, Pradeep Kumar. **Theoretical studies on the crystalloluminesence of inorganic and organic materials.** Durgavati. (Dr M H Ansari) Department of Physics, Rani Durgavati Vishwavidyalaya, Jabalpur

6 Wasan, Gore Bhalchandra **Efficiency enhancement of cerenkov free electron lasers (FELS) using tapered dielectric layers and its comparison with high efficiency undulator fels.** Pune (Dr V B Asgekar) Department of Physics, University of Pune, Pune

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Biology (or) Botany & Zoology (put together)	60%	60%	55%	40%
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Aggregate Marks out of 200	140	130	120	80

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B	Physics	—do—	50%
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(i) A pass in HSC Examination or an equivalent examination with a minimum aggregate of 50% marks in Physics, Chemistry and Biology or Botany and Zoology/Mathematics For SC/ST Candidates the minimum qualification is a pass in the above subjects

(ii) A pass in Diploma in Pharmacy Course as per new educational regulations of Pharmacy Council of India

(iii) A pass in B Sc degree in one attempt with Physics, Chemistry and Mathematics, Biology subjects either at the Plus Two level or at the graduate level

ELIGIBILITY FOR ADMISSION TO D. PHARM. COURSE

(i) A pass in HSC Examination or an equivalent examination with Physics, Chemistry and Biology/Botany and Zoology/Mathematics

(ii) A pass in B Sc degree with Physics, Chemistry and Biology/Mathematics subjects either at the HSC level or at the graduate level

Maximum number of attempts for
MBBS/BDS/BPT/BOT/B Sc (Nursing) B Pharm./D Pharm Courses

	Community	Maximum No. of Attempts to Pass	Maximum No. of Improvements	Maximum Total No. of appearances
1	Scheduled Caste/ Scheduled Tribe	Three	One	Four
2	For others	Two	One	Three

Age Limit for MBBS/BDS/BPT/BOT/B.Sc. (Nursing) B.Pharmacy & D.Pharmacy

The Candidates should have completed the age of 17 years on or before 31st December 1998 No request for relaxation of the age limit will be entertained

GENERAL INSTRUCTIONS

1 Candidates who have appeared for the Entrance Examination conducted by the Annamalai University on 7th May 1998 for the above courses (Except M Pharmacy & D Pharmacy) are only eligible to apply

2 Candidates who have not appeared for Entrance Examination are advised not to apply

3 A separate interview for each course will be conducted only at Annamalainagar

APPLICATION PROCEDURES

The Application form along with prospectus can be had from The Registrar, Annamalai University, Annamalainagar-608 002 on payment of prescribed amount noted against each course in person or by post by sending a Demand Draft obtained on or after 11 05 98 drawn in favour of "The Registrar, Annamalai University, Annamalainagar" from Indian Bank or Bank of Madura Ltd, payable at Annamalainagar (or) State Bank of India payable at Chidambaram, along with a self addressed stamped envelope of size 30 cm x 15 cm stamps affixed to the value of Rs 5/- and the name of the course for which the application is required should be suprescribed boldly on the envelope The name of the course should be clearly indicated in the requisition letter The Name and Address of the Candidate and course for which application is made should also be indicated on the back of the Demand Draft

Demand Draft made on the Banks mentioned above only will be accepted.

Sl. No.	Course	Date of Issue of Application form with Prospectus	Last date for issue and receipt of completed application form
1	MBBS/BDS/BPT/BOT B Sc (Nursing)/ B Pharmacy	15 05 98	19 06 98
2	M Pharmacy	18 05 98	19 06 98
3	D Pharmacy	18 05 98	19 06 98

For more details refer respective prospectus

The University will not be responsible for any postal delay

No K2/734/Advt No 5/Admn./98

Annamalainagar **Dr. P.L. Sabarathinam,**

11.05.98 **REGISTRAR**

Annamalai University

NOTIFICATION

ADMISSION TO PROFESSIONAL COURSES

B.E./B.E. (Chem.)/M.E./M.E. (Chem.)/B.Sc. (Ag.)/B.Sc. (Hort.)

Applications are invited for admission to the following courses of study for the academic year 1998-99 The Cost of application from along with prospectus is noted against each course

Sl. No.	Name of the Course	Cost of Appln. Form	
		Other than SC/ST	For SC/ST Students**
		Rs.	Rs.
1	B E./B E (Chem) Degree — Regular	100/-	50/-
	BRANCHES OFFERED		
	1 Civil		
	2 Civil & Structural		
	3 Mechanical		
	4 Mechanical & Production		
	5 Electrical & Electronics		
	6 Electronics & Instrumentation		
	7 Computer Science & Engineering		
	8 Chemical Engineering		
2	B E./B E (Chem) Degree — Part-Time (including Entrance Examination Fee)	200/-	200/-
	BRANCHES OFFERED		
	1 Civil		
	2 Mechanical		
	3 Electrical & Electronics		
	4 Chemical Engineering		
3	M E./M E (Chemical) Degree — Regular	100/-	50/-
	(Part Time)	100/-	100/-
	1 Water Resources Engg and Management — Regular		
	2 Structural Engg — Regular		
	3 Thermal Power Engg — Regular		
	4 Production Engg — Regular & Part Time		
	5 Electrical Power System — Regular		
	6 Chemical Engg — Regular & Part Time		
4	B Sc (Agriculture)	100/-	50/-
5	B Sc (Horticulture)	100/-	50/-

**For SC/ST Students should send a copy of Community Certificate duly attested by the Gazetted Officer along with requisition letter and Demand Draft Requisition received without certificate will not be entertained

1. **QUALIFICATION FOR ADMISSION TO B.E./B.E. (CHEMICAL)**

(i) A Pass in HSC (Academic) with Mathematics, Physics and Chemistry

(OR)

(ii) A Pass in HSC (Vocational Stream) with Mathematics/Physics and related vocational subjects

(OR)

(iii) Diploma in any one of the courses viz., Civil, Mechanical, Electrical, Electronics, Chemical and Computer Science and Engineering

(OR)

(iv) Any other Equivalent examination approved by the Annamalai University

A. REQUIRED MINIMUM MARKS — ACADEMIC STREAM

Subject or Group of Subjects	Community			
	OC	BC	MBC/DC	SC/ST
Mathematics	60%	60%	55%	40%
Physics & Chemistry (put together)	60%	60%	55%	40%
Aggregate Marks out of 200	140	130	120	80

B. REQUIRED MINIMUM MARKS — VOCATIONAL STREAM

Mathematics/Physics	60%	60%	55%	40%
Vocational Subjects (including theory & practicals put together)	60%	60%	55%	40%
Aggregate Marks out of 200	140	130	120	80

C. QUALIFICATION FOR DIPLOMA HOLDERS :

A minimum average of 60% marks in each subject of the last two semesters (i e , 5th & 6th) and an aggregate of 70% marks put together in the last two semesters

2. QUALIFICATION FOR ADMISSION TO B.Sc. (AGRICULTURE)/B.Sc. (HORTICULTURE) COURSES

(i) A Pass in HSC (Academic) with Biology or Botany and Zoology, Physics and Chemistry

(OR)

(ii) A Pass in HSC (Vocational Stream) with Biology and related vocational subject

(OR)

(iii) Any other equivalent examination approved by the Annamalai University

A. REQUIRED MINIMUM MARKS — ACADEMIC STREAM

Subject or Group of Subjects	Community			
	OC	BC	MBC/DC	SC/ST
Biology (or) Botany & Zoology (put together)	60%	60%	55%	40%
Physics & Chemistry (put together)	60%	60%	55%	40%
Aggregate Marks out of 200	140	130	120	80

B. REQUIRED MINIMUM MARKS — VOCATIONAL STREAM

Subject or Group of Subjects	Community			
	OC	BC	MBC/DC	SC/ST
Biology	60%	60%	55%	40%
Vocational Subjects (including theory & practicals put together)	60%	60%	55%	40%
Aggregate Marks out of 200	140	130	120	80

Maximum number of attempts for B.E./B.E. (Chemical) and B.Sc. (Agriculture)/B.Sc. (Horticulture)

	Community	Maximum No. of Attempts to Pass	Maximum No. of Improvements	Maximum Total No. of Appearances
1	Scheduled Caste/ Scheduled Tribe	Three	One	Four
2	For others	Two	One	Three

Age Limit for B.E./B.E. (Chemical) & B.Sc. (Agriculture)/B.Sc. (Horticulture)

The Candidates should not be above the prescribed age as on 1st July, 1998 as indicated below on that date

	Community			Age
1	Scheduled Caste/ Scheduled Tribe	—	—	No age limit
2	For others	—	—	21 Years

GENERAL INSTRUCTIONS
B.E./B.E. (Chem.)/B.Sc. (Ag.)/B.Sc. (Hort.)

1 Applicants belonging to Tamil Nadu only will be considered for admission

2 Candidates who have appeared for entrance examination conducted by the Annamalai University on 8th and 9th May 1998 are only eligible for the B E./B E (Chemical) and B Sc (Agriculture)/B.Sc (Horticulture) courses

3 Candidates who have not appeared for entrance examination are advised not to apply

B.E./B.E. (Chem.) and M.E./M.E. (Chem.) Part-Time Courses

1 Candidates working within 75 kms. radius in and around Annamalainagar are only eligible to apply for the B E./B.E (Chem) and M E./M E. (Chem) Part-Time Courses

2 Date of Entrance Examination for B E./B E (Chem) Part-Time on 29 06 98 F N

APPLICATION PROCEDURES

The Application form along with prospectus can be had from The Registrar, Annamalai University, Annamalainagar-608 002 on payment of amount noted against each course in person or by post by sending a Demand Draft obtained on or after 11 05 98 drawn in favour of "The Registrar, Annamalai University, Annamalainagar" from Indian Bank or Bank of Madura Ltd , payable at Annamalainagar (or) State Bank of India payable at Chidambaram, along with a self addressed stamped envelope of size 30 cm x 15 cm stamps affixed to the value of Rs 5/- and the name of the course for which the application is required should be superscribed boldly on the envelope The name of the course should also be indicated in the requisition letter also The Name and Address of the Candidate and course for which application is made should be clearly indicated on the back of the Demand Draft

Demand Drafts made on the Banks mentioned above only will be accepted.

Sl. No.	Course	Date of Issue of Application form with Prospectus	Last date for issue and receipt of completed Application form
1	B E./B E (Chemical) — B Sc (Agriculture)/ B Sc (Horticulture)	15 05 98	19 06.98
2	B E./B E (Chem) Part-Time	15 05 98	12 06 98
3	M E./M E (Chemical) Regular & Part-Time	26 05 98	06.07 98

For more details refer respective prospectus

The University will not be responsible for any postal delay

No K2/734/Advt No 4/Admn./98

Annamalainagar **Dr. P.L. Sabarathinam,**
11.05.98 **REGISTRAR**

CLASSIFIED ADVERTISEMENTS

ZANTYE BROTHERS EDUCATIONAL FOUNDATION'S NARAYAN ZANTYE COLLEGE OF COMMERCE

BICHOLIM-GOA. PIN-403 529 (INDUSTRIAL ESTATE)

Invites applications from Indian Citizens for the following posts

1) Lecturer in Commerce and Business Management (Code CBM-I) (Reserved for O B C) — 1 post Full Time (First Advertisement)
2) Lecturer in Cost Accounting and Management Accounting (Code CM-II) — 1 post Full Time
3) Lecturer in Business Management (Code BM-I) — 1 post Full Time
4) Lecturer in Cost Accounting and Management Accounting (Code CM-I) (Reserved for Scheduled Caste) — 1 post Full Time (Second Advertisement)
5) Lecturer in Computer Awareness and Computer Systems (Code CACS-I) — 1 post Full Time
6) Lecturer in Business Law (Code BL-I) (Reserved for Scheduled Tribes) — 1 post Lecture Basis (First Advertisement)
7) Librarian (Code L-I) — 1 post Full Time
8) College Director of Physical Education and Sports (Code DPE-I) — 1 post Full Time
9) Lecturer in Geography (Code G-I) — 1 post Full Time
10) Lecturers in Computer Science (Code CS-I For PGDCA) — 3 posts Full Time

I) If suitable candidates from SC/ST/O B C are not available, Candidates from General Category shall be considered for appointment, Temporary for one year

II) For the posts listed under serial Nos 3, 5, 7 and 8 only candidates who have passed NET/SET need apply For the post listed under serial No 4 only Scheduled Caste Candidates or Candidates who have passed NET/SET need apply

III) **Academic Qualifications :**

A) For Lecturers' Posts :

a) Master's Degree in the relevant subject (i e minimum 6 papers) with atleast 55% marks or its equivalent grade and b) Consistently good academic record (Graduation with Second Class) For posts under serial No 5 and 10 (i) First class B E /B Tech in Computer Science or Electronics having consistently good academic record with two years experience of teaching/research/industry or (ii) M E./M Tech in Computer Science or Electronics with 55% marks and good academic record or (iii) M C A or M Sc in Computer Science or Electronics with 55% marks and good academic record

B) For Librarian :

Master's Degree in Library Scienec/Information Science/Documentation or an equivalent professional degree with atleast 55% marks or its equivalent grade plus a consistently good academic record or Master's degree in Arts/Science/Commerce or equivalent degree with atleast 55% marks or its equivalent grade with Bachelor's degree in Library Science/Information Science/ Documentation or an equivalent professional degree with atleast 55% marks or its equivalent grade plus a consistently good academic record

C) For College Director of Physical Education and Sports

a) Master's Degree in Physical Education (2 years course) or Master's Degree in Sports (2 years course) of NSNIS, Patiala with atleast 55% marks or its equivalent grade plus a consistently good academic record

b) Record of having represented the University/College at the Inter-University/ Inter-Collegiate competitions or the *State in National Championship*

IV) The candidates for posts of Lecturers/Librarian/College D P E S must have passed the National Eligibility Test conducted by UGC/CSIR or similar Tests accredited by UGC In case candidates having passed NET are not available or found unsuitable otherwise, other suitable candidates would be appointed on purely temporary basis

V) **Scale of Pay :** As approved by appropriate authorities

VI) **Service Conditions :** As prescribed by Goa University, Government of Goa and other competent Authorities Persons who are employed shall send their applications through proper channel Break in service, if any, should be accounted for

VII) Applications from the reserved categories should attach a certified copy of the caste certificate

VIII) Interested candidates should apply giving full details, viz Full name, Address, Date of Birth, Percentage of marks from SSC onwards, Subjects offered at all public Exams, Teaching experience, if any and any other details

IX) True-copies of marks statements of all public examinations passed, should be enclosed

X) Applications complete in all respects, should reach the Principal **within 15 days** from the date of publication of this advertisement, clearly mentioning the serial Number and Code Number of the post applied for.

XI) POSTS WILL BE FILLED PROVIDED WORK LOAD WARRANTS

Arun Sakhardande
Date : 12.05.1998 **PRINCIPAL**

BARKATULLAH UNIVERSITY, BHOPAL

(Advertisement No. 1/98)

Applications are invited for the following posts so as to reach to the office of the undersigned by **15th June, 1998** on the prescribed forms to be obtained from the University on payment of Rs 100/- by Demand Draft in favour of Registrar, Barkatullah University, Bhopal

Professor (Rs. 4500-7300)

1	Regional Planning & Economic Growth	ST
2	Business Mgmt	Gen
3	Commerce	Gen
4	Psychology	SC
5	Computer Science	OBC
6	Persian	Gen
7	Computer Application	ST
8	Environmental Studies	Gen
9	Limnology	Gen
10	Director (Computer Centre)	SC
11	Women Studies	Gen
12	Law	Gen
13	Mathematics	ST
14	Social Anthropology	Gen
15	Director (Sports)	OBC
16	Director (Correspondence Courses)	SC
17	Bio-technology	Gen
18	Bio-Science	Gen
19	Geology	ST
20	Electronics	Gen
21	Director, College Development Council	Gen

Reader (Rs. 3700-5700)

1	Computer Application	ST
2	Microbiology	Gen
3	Sanskrit	Gen
4	Physics	SC
5	Sr Scientific Officer (USIC)	OBC
6	Computer Science	Gen
7	Law	ST
8	Business Mgmt	Gen
9	Microbiology	Gen
10	Sanskrit/Pali/Prakrit	SC
11	Bio-technology	Gen
12	Regional Planning & Economic Growth	Gen
13	Business Mgmt	ST
14	Geology	Gen

Lecturer (Rs. 2200-4000)

1.	Regional Planning & Economic Growth	ST
2	Business Mgmt	Gen
3	Law	Gen
4	Genetics	SC
5	Microbiology	OBC
6	Applied Geology	Gen
7	Regional Planning & Economic Growth	ST
8	Electronics	Gen
9	Persian	Gen
10	Business Mgmt	SC
11	Microbiology	Gen
12	Project Officer (Adult Education)	Gen
13	Business Mgmt	ST
14	Chemistry	Gen
15	Computer Application	OBC
16	Regional Planning & Economic Growth	SC
17	Bio-technology	Gen
18	Scientific Officer (USIC)	GEN
19	Limnology	ST
20	Law	Gen
21	Bio-technology	Gen
22	Commerce	ST
23	Limnology (Leave Vacancy)	Gen
24	Geology	OBC
25	Computer Science	SC
26	Sanskrit	Gen

PS

1 33% seats are to be filled up from women candidates in general and reserve category respectively

2 Qualifications for the posts shall be the same as prescribed by the UGC from time to time and the specialization needed in some particular vacancies is shown in the appendix of the application form

3 Pay scales of the above posts are likely to be revised

4 Abbreviations SC = Scheduled Caste, ST = Scheduled Tribe, Gen = General, OBC = Other Backward Castes, Mgmt = Management USIC = University Science Instrumentation Centre

REGISTRAR

Kopargaon Taluka Education Society's
K.J. SOMAIYA COLLEGE OF ARTS, COMMERCE AND SCIENCE,
Mohanirajnagar, KOPARGAON,
Dist. Ahmednagar

WANTED

Applications are invited for following posts in Senior College

No.	Subject	Reservation if any
1)	HINDI	S T
2)	CHEMISTRY	S C

i) Pay Scales qualifications are service conditions as per University of Pune & Govt of Maharashtra. Good academic record at least 55% marks or an equivalent Grade at Master degree in relevant subject and consistently good academic record and SET/NET passed

ii) Candidates should send one copy of application to Dy Registrar (Reservation) Pune University, Pune 7

iii) Those who already in service in Sr College as an approved teachers they can also apply through proper channel

iv) The applications should reach to the Principal with cross Postal Order or Cross Demand Draft for Rs 5/- **within 15 days** from the date of publishing advt

Adv. S.D. Kulkarni **V.B. Deshmukh**
SECRETARY **PRINCIPAL**

A.K. Rohamare
CHAIRMAN

Vidya Vikas Mandal's
SHREE DAMODAR COLLEGE OF COMMERCE & ECONOMICS,
P.O. Box No. 347, Tansor Comba, Margao, Goa-403 601

WANTED LECTURERS/INSTRUCTORS

Applications are invited for the following posts

A 1 Lecturer in Computer Science (Full Time) 1 post

B 1 Lecturer in Commerce (Full Time) 1 post, 3rd Advertisement

C 1 Computer Instructor (Full Time) 2 posts

The posts are reserved for candidates belonging to Scheduled Castes/Scheduled Tribes

However, for category 'A' & 'C' above, if no suitable candidates belonging to Scheduled Castes/Tribes are available, candidates from General Category will be considered

For Category B above, candidates from categories other than that of Reserved Categories **need not apply.**

Academic Qualifications : For Categories A & B

(i) A Master's Degree in the relevant subject (with minimum 6 papers) with at least 55% marks or its equivalent grade, good academic record, and (ii) passing of National Eligibility Test (NET) for Lecturers conducted by UGC or its equivalent (Those who have submitted Ph D Thesis or passed M Phil By 31.12.1993 are exempted from condition (ii) above

In case candidates having pased NET or its equivalent are not available, other candidates would be appointed on temporary basis for one year

Scale of Pay : Rs 2200/- in the scale of Rs 2200-75-2800-100-4000 + all other allowances like Dearness Allowance, House Rent Allowance, City Compensatory Allowance, etc as prescribed by the Government of Goa from time to time

Academic Qualifications : For Category C Computer Instructor

Essential : Post Graduate Diploma in Computer Applications from any recognized University, or equivalent qualification Desirable · A Bachelor's Degree in Commerce Scale of Pay Rs 1640/- in the scale of Rs. 1640-2900 + all other allowances like Dearness Allowance, House Rent Allowance, City Compensatory Allowance, etc as prescribed by the Government of Goa from time to time

Service Conditions : As prescribed by Goa University, Government of Goa and other competent authorities from time to time

Persons who are already employed shall send their applications through proper channel Break in service, if any, should be accounted for

Interested candidates should apply giving full details of academic qualifications from S S C onwards, clearly indicating the subjects offered, marks scored and class/division obtained at all public examinations, teaching experience (if any), address, date of birth, etc Applicants from reserved categories **must attach a certified copy** of Caste Certificate True copies of marks statements, and passing certificates of all public examinations should be enclosed

Applications should reach the Principal **within 15 days** from the date of publication of this advertisement

Margao **G.M. Prabhudesai**
16.5.1998 **PRINCIPAL**

SUDHAKARRAO NAIK INSTITUTE OF PHARMACY,
PUSAD-445 204 (M.S.)

WANTED

Applications are invited for the following posts (one each) as Asstt Professor in Pharmaceutics, Pharmaceutical Chemistry and Pharmacognosy

Qualifications : as per AICTE norms

Pay Scales : as per UGC/M S Govt rules

Send complete Bio-data with copies of certificates and testimonials to the undersigned **within 10 days** from the date of publishing

Prof. J.V. Chaudhari
PRINCIPAL

NORTH EASTERN REGIONAL INSTITUTE OF SCIENCE & TECHNOLOGY NIRJULI : 791 109
(ITANAGAR) ARUNACHAL PRADESH

Advertisement No. 2/98

Faculty positions are available as per AICTE qualification and pay scale with allowance and incentive (LTC, Joining TA, Hill allowance, Simple free furnished accommodation or HRA and other allowances as admissible to employees of NERIST from time to time)

PROFESSOR : CE, ME, EE, EC, CS, AE, CH, PH, AS**

ASSISTANT PROFESSOR : CE (Env Science & General), EC (Information Technology & General), ME (CAD/CAM. Industrial/Production), AE (Food Processing, Farm Machinery), CS, EE, PH, MA & AS**

LECTURER : CS, MA (Statistics), CE, ME, EE, EC, AE**

Applications are invited in the plain paper on standard format

- Bio-Data Name, Address for correspondence. Date of Birth, Present Position, Chronologically details of academic qualification and experience (Industry & Teaching, designation and scale with a passport size photograph), OBC/SC/ST, Certificate and any other specific information
- Publication — National, International (Journal, Seminar, Conference)
- Demand Draft In favour of the Director, NERIST on State Bank of India payable at Nirjuli (Code 9535) for Rs 100 00 (Rs 25 00 for SC/ST)
- Interview at Indian Institute of Technology, Guwahati (Tentatively First week of July) Railway 2nd class return fare allowed
- Short listed candidates will be informed to attend the interview
- The Institute reserves the right not to fill some or any of the posts
- **Last date** to receive application is **15.06.98.**
- Address your application to the Registrar, NERIST
- Bio-data of applicants against advertisement No 2/97 may be updated

** CE (Civil Engineering), ME (Mechanical Engineering), EE (Electrical Engineering), EC (Electronics & Communication Engineering), CS (Computer Science & Engineering), AE (Agricultural Engineering), CH (Chemistry), PH (Physics), AS (Applied Sciences), MA (Mathematics)

Dempo Charities Trust
DHEMPE COLLEGE OF ARTS & SCIENCE

P.O. Box No. 222
Panaji-Goa

CORRIGENDUM

Reference advertisement dated 11 3 98 published on 23 3 98 and corrigendum dated 18 3 98 published on 30 3 98

All the candidates in the subject of Chemistry are requested to note the following corrections

1) Chemistry (Full Time)

— 1 Resv for SC - Organic Chemistry advt for 4th time

— 1 Resv for ST - Physical Chemistry advt for 4th time

The candidates must submit their applications **within 15 days** from the date of publication of this notice. Only ST candidates will be considered for the post of lecturer in Physical Chemistry and Only SC candidates will be considered for the post of lecturer in Organic Chemistry

All other terms and conditions remain the same.

Dr. G.N. Mishra
Date : 6.5.98 **PRINCIPAL**

BANASTHALI VIDYAPITH
(Deemed to be University)

Applications are invited for the following posts

Professor : Hindi 1, Electronics 1

Readers : Electronics 1, Computer Science 2, Sociology 1, Economics 1, Hindi 1, Education 1

Lecturers : Economics 1(T), History 2(1T), Political Science 1(T), Sociology 1(T), Hindi 1(T), Mathematics 3(1 Leave Vacancy), Electronics 1(T), Computer Science 2, Chemistry (Organic) 1, Food & Nutrition 1(T), Clothing & Textile *1(T), Music Vocal 1(T), Statistics 1*, Drawing & Painting 1 (Leave Vacancy)

T *Temporary*

Qualifications : Professor — Eminent scholar with published work of high quality actively engaged in research with 10 years of experience in post graduate teaching and/or research **Reader :** Good academic record with a doctoral degree or equivalent work, 8 years of teaching and/or research (upto 3 years for research degrees) Mark in the areas of scholarship, educational renovation, design of new courses and curricula **Lecturer :** Good academic record with atleast 55% marks at Master's level Cleared NET or similar test In case suitable candidate, with NET are not available temporary appointment without NET may be recommended by Selection Committee

***Separate Qualifications and/or* Specializations :**

i **Reader Computer Science** . M Tech, (Comp Sc) with valid GATE score **Desirable** Ph D **Specialization :** Networks/Distributed Database/Parallel Computing

ii **Reader Electronics :** M Tech./M E (Electronics) **Desirable :** valid GATE score/*Ph D*

iii **Reader Education :** Essential-B Ed with atleast II, II and M Ed with atleast 55% marks **Desirable :** Teacher Education/Philosophy of Education/Research Methodology Candidate with M A./M Sc History/English/Hindi/Sanskrit/Mathematics preferred

iv **Lecturer Computer Science :** IMCA/M.Sc (Comp Sc)/B E./B Tech. (Comp Sc)/M Tech (Comp Sc) after M Sc. Physics/Mathematics

v **Lecturer Electronics :** II M.Sc Electronics/Applied/Radio Physics & Electronics/I B E Electronics or Electrical Engineering or Communication Engineering

vi **Lecturer Education :** Atleast II, II B Ed & M Ed. with atleast 55% marks. II M A./M Sc History/English/Hindi/Sanskrit/Mathematics/Home Science **Desirable :** Specialization at M.Ed. in Philosophy of Education/Teacher Education/Research Methodology. Ability to organise

Pay Scales (Pre-revised) · Professor . 4500-7300, Reader . 3700-5700, Lecturer 2200-4000, D A , P F , Gratuity, Insurance & Pension benefits as per Vidyapith rules

(1) WORKER MUST BECOME HABITUAL WEARER OF KHADI ON APPOINTMENT (2) Vidyapith reserves the right to reduce or increase the number of vacancies or not to fill up any post/s advertised (3) Rs 30/- IPO in favour of Banasthali Vidyapith to be sent with the application (Rs. 5/- IPO for SC/ST) (4) Vidyapith will bear one way Second class fare by shortest route for appearing at interview (5) Other things being same WOMEN PREFERRED

Applications must reach **latest by 22 June, 1998.**

Application forms can be obtained by sending self addressed envelope (16x23 cm) with IPO of Rs 10/- (Rs 3/- for SC/ST candidate) and Rs 20/- if required by registered post, to the Secretary, Banasthali Vidyapith P O Banasthali Vidyapith (Rajasthan)-304 022
No 4/98

BHARATHIAR PALKALAIKOODAM
(Bharathiar Centre for Performing & Fine Arts)
CUDDALORE MAIN ROAD,
ARIYANKUPPAM
PONDICHERRY-605 007
(Sponsored by Govt. of Pondicherry)
(Affiliated to Pondicherry University)
Phone : 47642 E-mail: bharathi@md2.vsnl.net in

Applications are invited from eligible candidates for the Post of

Lecturer in Veena (One)
Lecturer in Violin (One)
Lecturer in Vocal (One)
Lecturer in Bharathanatyam (One)

QUALIFICATIONS :

1 Post Graduate degree in Veena/Violin/Vocal/Bharathanatyam as Main subject with not less than 55% marks 2 Those who have cleared the Eligibility Test for Lecturership conducted by the U G C./SLET OR Those who have already been awarded the Ph D degree in Music/Dance OR Those who have submitted their Ph D thesis or passed M Phil degree in Music/Dance before 31 12 1993

Pay : as per U G C Norms

Last date for receipt of Applications :

Three weeks from the date of publication of this Advertisement

The applicants should send their Resume along with all relevant details enclosing attested copies of the Certificates and Testimonials to the undersigned by name by Registered Post

Dr. M. Hariharan
PRINCIPAL

CENTRAL INSTITUTE OF TOOL DESIGN

(A GOVT. OF INDIA SOCIETY)

BALANAGAR : : HYDERABAD-500 037

ADMISSION TO REGULAR TRAINING COURSES 1998

Applications are invited in the prescribed form for admission into the following courses commencing from August, 1998

COURSE-I : POST GRADUATE COURSE IN TOOL, DIE & MOULD DESIGN (PGTD), (Recognised by the Govt of India, Ministry of Education as an advanced post graduate qualification) **DURATION :** One and a half year **QUALIFICATION :** B E (Mech)/B E (Prodn) or recognised equivalent qualification **AGE :** 30 years (not born before 31 07 1968), for candidates seeking admission through entrance test Relaxation upto 5 years for SC/ST candidates **NO. OF SEATS :** (A) 16 seats through entrance test (B) 10 seats sponsored by Industries **COURSE FEE :** (A) Rs 20,000/- for candidates selected through entrance test (B) Rs 31,500/- for candidates sponsored by Industries

COURSE-II : POST DIPLOMA COURSE IN TOOL DESIGN (PDTD) **DURATION :** One year **QUALIFICATION : LME/ DME** with First Class (60% marks) **AGE :** 27 years (not born before 31 7 1971) for candidates seeking admission through entrance test Relaxation upto 5 years for SC/ST candidates **NO. OF SEATS :** (A) 18 seats through entrance test (B) 10 seats sponsored by Industries **COURSE FEE :** (A) Rs 7,500/- for candidates selected through entrance test (B) Rs 10,500/- for candidates sponsored by Industries

COURSE III : DIPLOMA COURSE IN TOOL MAKING (DTM) (Recognised by the Govt of India, Ministry of Education) **DURATION :** Four Years **QUALIFICATION :** SSC/Matric with I T I in any one of the trades — Tool & Die Making/Fitter/ Machinist **AGE :** 25 years (not born before 31 7 1973) Relaxation upto 5 years for SC/ST candidates **NO. OF SEATS :** 20 seats through entrance test **COURSE FEE :** Rs 3,500/- per year for 3 years and during the 4th year Rs 1,500/- p m will be paid as stipend and the trainees are required to work on all machines

1 **MODE OF SELECTION (A)** Selection of candidates through entrance test Candidates will be selected through entrance test for PGTD, PDTD & DTM Selection is purely based on merit in the written test conducted by CITD , at Hyderabad The successful candidates from GATE exam also need to qualify themselves in the entrance test conducted by CITD, for PGTD Course **(B)** Selection of Candidates sponsored by Industries The selection of candidates, sponsored by the Industries is purely based on the relevant experience in tooling, marks obtained by them in Degree/Diploma exam and performance in the written test and interview

2 **DATE OF ENTRANCE TEST AND CENTRE : 05.07.1998 (SUNDAY),** at Hyderabad

3 **HOW TO APPLY :** Prescribed application forms and prospectus (containing syllabus of entrance examination) can be had from the Superintendent (Trg), Central Institute of Tool Design, Balanagar, Hyderabad-500 037, by sending a crossed demand draft for Rs 150/- (For SC/ST candidates Rs 30/-) drawn in favour of the Principal Director, CITD, Hyderabad, on any nationalized bank, payable at Hyderabad (preferably on State Bank of Hyderabad, Balanagar Branch, Hyderabad-500 037) The SC/ST candidates need to enclose a copy of the Caste Certificate attested by a Gazetted Officer Envelope containing the request for application & prospectus should be superscribed with the name of the course applied for A self addressed envelope (size 26 cms x 13 cms) duly affixed with Rs 4/- postage stamp also should be sent

4 **COMMENCEMENT OF ISSUE OF APPLICATION FORMS : 15.04.1998.**

5 **LAST DATE FOR ISSUE OF APPLICATION FORMS : 13.06.1998.**

6 **LAST DATE FOR RECEIPT OF DULY FILLED IN APPLICATION FORMS BY POST OR IN PERSON : 20.06.1998**

7 **NOTE :** (i) In respect of candidates sponsored by the Industries, the sponsoring authorities have to forward the bio-data of the candidates accompanied by a crossed demand draft for Rs 250/- drawn in favour of the **Principal Director, CITD., Hyderabad,** towards registration fee, so as to reach on or before **05.08.1998.** (ii) Candidates appearing for final Degree/Diploma/ITI examination can also apply for the respective courses, provided they secure a final pass in the qualifying exam at the time of admission and they should produce the proof of passing the examination well before finalization of admissions (iii) Reservations for SC/ST category exist as per Govt of India rules (iv) The institute is not responsible for any postal delay (v) The seats advertised are provisional and the institute reserves the right to increase or decrease the seats. (vi) The rules made by the Institute regarding selection and closure of the admissions shall be final Candidates are advised to refer the prospectus for further details.

AMRAVATI UNIVERSITY, AMRAVATI (MAHARASHTRA)

ADMISSION NOTICE

Common All India Level Entrance Examination for Admission (Session 1998-99)
to

MASTER IN COMPUTER APPLICATION (MCA)

(Affiliated to Amravati University & recognised by AICTE)

The MCA Programme in the jurisdiction of Amravati University is conducted at following Centres :

Centre No. 1 : P.G. Department of Computer Science & Engg., Amravati University, Amravati-444 603 (Maharashtra) (AICTE Approval No. 411/MS-02/APR(CS)/BOS/95 dated 12/05/95)

Centre No. 2 : P.G. Department of Computer Science and Technology, DCPE, H V.P Mandal, Amravati-444 605 (Maharashtra) (AICTE Approval No. 411/MS-02/APR(CS)/BOS/95 dated 11/09/95)

Duration of Course : 6 Semesters

No. of Seats : 30 at each Centre
15% seats are reserved for Students belonging to other state.

Eligibility : Graduate in any discipline with 50% marks (45% marks for B.C. Candidates) and having passed (10+2) level with mathematics. (Students appearing at final year of degree examination may also apply)

Mode of Selection : Score and Rank in **Entrance Test** plus **Personal Interview.**

Fees Payable after Selection : Rs. 15,700/- annually (approximately).

Application forms and Information Brouchure will be available on request by Payment of Rs. 250/- in CASH/D.D. drawn in favour of **Registrar, Amravati University, Amravati.**

From,

1) Head of Centre No. 1 and
2) Course Co-ordinator of Centre No. 2

The request by post should be accompanied by self addressed envelope of 20 cm x 25 cm with postage stamp of Rs. 8/- affixed to it and marked "MCA ENTRANCE". The institution will not be responsible for Postal delay/lapses.

Issue of Application Forms : 11/05/98 to 10/06/98 during office working hours.

Last date of Acceptance of completed forms : 13/06/98 (up to 5.00 p.m.) either by Post/Hand.

Date of Common Entrance Test : 22/06/98 (11.00 a.m. to 1.00 p.m.)

Venue of Entrance Test : Amravati University, Amravati

REGISTRAR

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